

THE NATIONAL PROVISIONER

OFFICIAL ORGAN OF THE AMERICAN MEAT PACKERS' ASSOCIATION

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MEAT PRICES IN LONDON.

The effect of the war on meat prices in London may be gathered from the fact that South American chilled beef sold in Smithfield Market on September 2 at 15 cents per pound in the carcass. Australian frozen beef brought 13¼ cents per pound in the carcass, while mutton sold for 18 cents in the carcass. Foreign beef sold in the New York market the same week for a little over 11 cents per pound. Under such circumstances it is not surprising that London is now getting the foreign beef, to the exclusion of the United States markets.

LAST ARRIVAL OF ARGENTINE BEEF.

Arrivals of foreign beef at New York during the past week totaled 41,693 quarters, all from South America. It was the first arrival of imported beef in three weeks, the war having shut off all shipments except a few already contracted for from South America.

It was said in the trade that these would be the last boats to arrive with Argentine beef, and some color was lent to this statement by the cable advices showing that while 59,000 quarters of beef were exported from the Argentine to England last week, none was shipped to North America. This indicates that the European demand due to war necessities will take the trade in that direction. This demand is now so imperative that some South American beef was reshipped during the week from New York to England to supply army orders there. This was frozen beef held in storage here because of lack of demand for it in the shop trade.

Two boats brought the last of the Argentine beef to New York, the Vestris carrying 13,584 quarters and the Highland Heather 28,109 quarters. The arrivals also included 1,966 mutton carcasses and 3,468 carcasses of lamb, as well as 512 bags of beef, 1,060 cases corned beef and 3,629 bags and boxes of offal.

TO RESTRICT SLAUGHTER OF MEAT.

A bill has been introduced in the British Parliament to give the government the power to prohibit the slaughter of any meat animal where it may be necessary to do so in order to maintain a sufficient supply of breeding stock. This is along the lines of the proposal in the United States to restrict calf slaughter, a proposal which its opponents have pronounced impractical. In England the government is behind such a bill, and will put it through. The bill reads:

The Board of Agriculture and Fisheries

may, for the purpose of maintaining a sufficient breeding stock, by order regulate and restrict the slaughter in England and Wales, either generally or in any particular area, of animals used for human food, and may revoke, extend, or vary any order so made, but any order shall cease to operate at the expiration of one year from the passing of this act, except in relation to proceedings for any offence committed before such expiration.

This act shall apply to Scotland and Ireland, with the substitution for the Board of Agriculture and Fisheries of the Board of Agriculture for Scotland and the Department of Agriculture and Technical Instruction for Ireland respectively.

If any person acts in contravention of or fails to comply with any provision of an order made under this act he shall be liable upon

WHERE ARE WE AT?

If you feel disturbed over the war or general business conditions, why not get together with the rest of the trade at the

Meat Packers' Convention

which will be held at

CHICAGO

October 19, 20, and 21

and

TALK IT OVER!

summary conviction to a fine not exceeding twenty pounds; or, if the offence is committed with respect to more than four animals, to a fine not exceeding five pounds for each animal.

Is there something you want to know badly, that you remember reading in The National Provisioner, but you can't recall the date? Get a binder and keep your copies of the paper, and then you'll have it handy and won't have to waste time writing for it. Our new binder costs but \$1. Ask us about it.

MEAT PRODUCTS EXPORTS AND WAR.

Effect of the war situation abroad is indicated in the government reports of exports of meat and dairy products from the United States for the month of August. Our meat export trade had fallen off tremendously in recent years, due to shortage of supplies, and had come to be confined chiefly to exports of pork and fats. Here is where the loss of European markets is shown as a result of the war. Whether later foreign demand, due to famine conditions there, will rebuild this trade remains to be seen.

Exports of meat and dairy products for August, according to government reports, were valued at \$8,527,559, compared to \$11,889,947 in August, 1913. Decreases for the month were most noticeable in tallow exports, which fell from 2,393,087 lbs. a year ago to but 425,750 lbs. in August, 1914. Exports of lard were 15,000,000 pounds less than last year. Exports of hams and shoulders were cut in half, falling from 15,000,000 lbs. to 8,000,000 lbs. Exports of oleo oil were 3,000,000 lbs. less; bacon, 5,000,000 lbs. less; and other items in proportion.

For the eight months of the calendar year exports of meat and dairy products were \$3,500,000 in value below a year ago, totaling \$80,338,082 against \$93,804,543 last year. But a few years ago exports would have totaled twice this aggregate. A synopsis of the export figures for August, with comparisons:

	Aug., 1914.	Aug., 1913.
Beef, fresh, lbs.	918,651	567,636
Beef, fresh, value	\$114,303	\$64,457
Beef, pickled, etc., lbs.	2,293,769	2,233,068
Beef, pickled, etc., value	\$267,898	\$210,944
Oleo oil, lbs.	4,429,700	7,449,238
Oleo oil, value	\$463,117	\$831,912
Tallow, lbs.	425,750	2,393,087
Tallow, value	\$25,106	\$159,153
Bacon, lbs.	14,170,187	19,482,918
Bacon, value	\$2,033,403	\$2,585,466
Hams and shoulders, lbs.	8,723,259	15,188,455
Hams and shoulders, value	\$1,564,081	\$2,234,864
Lard, lbs.	24,981,695	39,960,063
Lard, value	\$2,742,390	\$4,621,753
Neutral lard, lbs.	1,503,443	2,156,587
Neutral lard, value	\$177,739	\$256,454
Pork, pickled, etc., lbs.	3,704,797	4,021,490
Pork, pickled, etc., value	\$418,578	\$445,565

A synopsis for the eight months of the year is as follows:

	8 mos., '14.	8 mos., '13.
Beef, fresh, lbs.	4,730,069	4,725,345
Beef, fresh, value	\$591,218	\$549,592
Beef, pickled, etc., lbs.	15,839,757	17,143,448
Beef, pickled, etc., value	\$1,541,505	\$1,719,808
Oleo oil, lbs.	64,286,945	72,288,051
Oleo oil, value	\$6,549,520	\$8,207,164
Tallow, lbs.	6,640,037	21,536,333
Tallow, value	\$410,556	\$1,390,072
Bacon, lbs.	112,333,387	139,166,710
Bacon, value	\$15,233,442	\$17,193,561
Hams and shoulders, lbs.	102,133,178	117,421,198
Hams and shoulders, value	\$14,675,308	\$18,405,609
Lard, lbs.	280,511,877	343,255,972
Lard, value	\$31,190,872	\$38,600,442
Neutral lard, lbs.	17,169,661	30,858,666
Neutral lard, value	\$1,983,272	\$3,529,495
Pork, pickled, etc., lbs.	27,527,111	28,114,109
Pork, pickled, etc., value	\$2,993,310	\$3,010,516

URUGUAY AS A SOURCE OF MEAT SUPPLIES

Resources Are Great Though Area Is Less Than Argentina

By Albert Hale, of the Pan-American Union.*

The history of stock raising in the Republic of Uruguay takes us back to the times long before the country declared its independence. All the region of the Rio de la Plata, of which Uruguay forms a part, was so naturally adapted to cattle that, in spite of the disturbed condition of the colonies in the second half of the eighteenth century, the industry grew and formed one of the sources of wealth and the basis upon which Uruguay of today rests much of its prosperity and activity.

Uruguay is essentially an agricultural and pastoral country, and mining must take a second place, especially at the present, when the whole world is demanding increased supplies of meat to feed the fast-increasing populations of Europe and America. It is interesting, therefore, to note that as early as 1793 the hacendados (ranch owners) of Uruguay reported that there were in the country upward of 450,000 head of cattle killed annually for their hides, and that efforts should be made, therefore, to utilize the meat from these cattle to put their cultivation on a sounder economical footing.

Artigas, the national hero of Uruguay, was one of the first to recognize the value of such a suggestion, and as early as 1813 he was instrumental in forming the Junta de Agricultura (Agricultural Council), which had the power to encourage agricultural development and to pass regulations for the subdivision of the land. Even then an experiment was made in spreading a practical knowledge of the best-known ways to farm, and the germ was started of what are now called experimental farms, which Uruguay has so wisely developed.

In one of his proclamations issued later, Artigas said to those in the administration: "Let your excellencies dedicate to the progress of the camp (the term used to express the agricultural area of the country), that zeal of which you have already given examples," and afterwards he himself drafted regulations which laid the foundation of rural legislation. Along with his appeal for arms and ammunition for his soldiers he asked for plows, picks and seeds; and again for primary reading books and other articles for the schools needed in the camp.

Uruguayans Always a Rural People.

Such things show the tendency of the population of Uruguay, which has always been quite as much rural as urban. Through the struggles that disturbed the Republic during the years of its formation, these experiences were not lost, and agricultural resources continued to increase through the character and energy of the people.

In 1860 the landowners succeeded in obtaining the passage of favorable rural legislation, and in 1871 the Rural Association of Uruguay was formed. This was an organization of all the elements of the rural population, and its efforts were directed toward popularizing the advantages of farming life. It published a Review in which it kept up its propaganda, and influenced thereby the passage of laws and of a rural code.

*From the Bulletin of the Pan-American Union.

Through the association new cultivations and new allied industries were introduced, and in the cattle industry the quality and the character of the breeds were materially improved. Rural societies affiliated with the association were founded, and an annual rural congress was successfully launched with their support. Out of this movement have grown experimental stations, a policy of animal sanitation, a diffusion of agricultural education, and finally a lasting support on the part of the Government to the extension of the farm life of the Republic.

The land in Uruguay is gently rolling, and it is difficult to find any large part of it unprovided with a bountiful water supply. The soil is deep and arable, and where not cultivated it supplies of itself a good pasture for the herds of cattle and sheep grazing upon it. The climate is mild, with no extremes of heat or cold, although the winters may have frosts and the summers the steady sun that remind one of mid-England in August.

One feature of the use of the land in Uruguay which deserves attention is the fact that the rural holdings of the country are divided among about 43,000 properties. That is to say, there are over 36,000 properties of less than 500 hectares (1,236 acres) each, which is looked upon as a minimum area for cattle raising, and anything smaller than this is better devoted to crop farming and the cultivation of vegetables or the vine. This does not take into account the department in which Montevideo is situated, where individual holdings are naturally much smaller. Even 10 years ago the average of each farm was of greater dimensions, from which it is seen that the national inclination is toward small properties.

Livestock Industry Chief Source of Income.

While the tendency in Uruguay is steadily in the direction of improvement in all the branches of cattle raising, there is also noticeable a desire to increase the agricultural, as compared with pastoral activities of the country. Thus one will supplement the other, and the rather unnecessary predominance of cattle and sheep raising, which was the condition at the end of the last century, is yielding to a healthier relationship between the two.

Immigration plays its part in this development. Later settlers in the country give more attention to small farming, so that as the cattle industry increases the supply of grains and fodder crops keeps more evenly adjusted to it.

The livestock industry will continue to be, however, the chief source of the country's commerce for years to come. A statement of the utilized land will be of interest here. Of the total area of the Republic, around 46,000,000 acres, 37,500,000 acres are given over to pasturage, and something over 2,000,000 to crop cultivation. This shows that four-fifths of the whole is devoted to grazing stock, and that this area is nineteen times the area devoted to crop farming.

A recent estimate of the animals now on this immense pasture area of the country places the number of cattle at 8,200,000;

sheep at about 27,000,000; hogs at perhaps something above 500,000, and horses, mules, and asses at nearly 600,000. The livestock products consumed and exported come from this multitude.

The wool, meat, hides, skins, tallow, and prepared meat extracts form the larger part of the export commerce of Uruguay, and as these items are increasing in demand the world over, while at the same time the quality of the various breeds is becoming superior, it is plain that the livestock industry of Uruguay is important in the economic influence of South America upon the world's markets.

The predominance of the exportation from Uruguay of livestock products is very evident. As some of the finest sheep of the world come from Spain, and as the earliest immigrants to Uruguay brought sheep with them, this original breed having been further improved by later breeding from the best of European stocks, it is no wonder therefore that the wool from Uruguay has a most excellent reputation in foreign markets. The mutton also from these sheep is today a valuable product, although at first it was actually thrown away as waste; but the freezing methods have revolutionized the business, and thus increased the profits to the grower and added to the value of the industry as a whole.

Jerked Beef Was Long the Chief Product

For a long time the preparation of jerked beef (tasajo) has been a leading industry in Uruguay. Although there is some consumed within the country, the greater portion is exported to Brazil, Cuba, Porto Rico, and elsewhere, where it is much liked by the people, in many cases being preferred to fresh meats. During one year over 700,000 cattle were slaughtered in Uruguay for jerked beef alone; there resulted over 113,000,000 pounds of meat with a value of about \$6,500,000.

The number of cattle killed for refrigerated meat is now over 31,000, with a value of almost \$3,000,000, and while far under the quantity prepared into jerked beef it seems most probable that the latter disposition of cattle products will overtake the former, and that as the market is so much more extensive, refrigerated meat going to the unlimited markets of Europe, the more modern method will prevail.

Uruguay, however, can not as yet compare with Argentina in its output of refrigerated meat, although it is rapidly becoming recognized as profitable. At least one of the long existing saladeros (salt-meat packing houses) has been changed into a modern refrigerating plant, and other quite new establishments are being worked. Mutton may be frozen, but beef is best prepared when chilled down to a preserving point but not frozen hard. All such refinements of the process are well observed in these plants, so that everything turned out from them meets the requirements of foreign markets.

The Government itself has felt it wise to undertake the working of a factory for the preparation of meat, not so much for the sake of pecuniary profit, but for the purpose of having under control a training school, as it were, in which instruction could be given and from which skilled workmen could be taken over into establishments conducted by private capital.

(Continued on page 36.)

HANDLING PACKING HOUSE PRODUCTS

Points for Small Packers on Treating By-Products

By George E. Dyck.

[EDITOR'S NOTE.—This is the seventh of a series of articles on the systematic treatment of packing-house by-products which have been appearing in the columns of *The National Provisioner* from time to time. The plan is to take up by-products of the meat industry from the beginning to the end of the meat-producing process, and to show the smaller packer, especially, how they may be systematically handled and economically utilized.]

Articles already published have treated of the handling of stockyards offal, blood and fertilizer materials, and fats.]

Steam Rendering of Lard and Tallow.

Inedible tallow is produced in much larger quantities than is the edible product, due to the fact that most of the better grades of raw fats have already been selected for the cleo department. The steam rendering of lard, being essentially identical with that of inedible and edible tallow, is accomplished in much the same manner. For this reason the important features of the process will be discussed as the subject of lard rendering is touched upon. In reading what is here written, therefore, care should be taken not to confuse lard and tallow. The processes are alike but the products are different.

Tanking means, as already stated, the rendering under pressure of fats from trimmings and such other materials of the packinghouse which can not be utilized to better advantage in other departments for human consumption as meat or meat products. The rendering tanks are boiler-like, cylindrical containers placed in a vertical position in a building known as the tank house. According to inspection rules they are divided into the edible and the inedible tanks, which two classes must be divided by proper partitions, so as to prevent intermingling of the raw materials as well as of the products.

The tanks are usually made of $\frac{3}{8}$ -inch steel plate, with cones at the top and bottom, the latter being of $\frac{1}{2}$ -inch steel. A tank of the usual size is 12 feet high by some 6 feet in diameter; it is perfectly cylindrical and will hold about 25 tierces of fat. The top cone is provided with a man-hole, 20 by 15 inches, of elliptical form. The bottom cone of the tank has a gate valve, or some similar valve for the dumping of the contents after the cooking, the aperture being 18 inches in diameter.

Each tank is provided with a 2-inch blow-off pipe with safety valve; a $1\frac{1}{2}$ -inch water pipe provides the tank with the necessary water; the steam line entering the tank at the bottom has the same dimension, viz., $1\frac{1}{2}$ inches. Three draw-off cocks of $1\frac{1}{2}$ -inch size and placed at various heights at about the middle of the tank permit the drawing off of the fats. The middle of the tank, as a rule, carries the lowest of the three cocks, the others being located above and at distances of about 6 inches apart.

Keep Refuse Out of Tanks.

The cocks are not placed perpendicularly above each other, but somewhat to the side from each other. A pressure gauge is connected with each tank. The false bottom, which is occasionally employed by some renderers, can be advantageously omitted and some variety of bone material, such as cattle or sheep heads, placed in the bottom of the tank before loading the latter, serving the same purpose as the false bottom without the disadvantages which the latter always presents.

With regard to the raw materials some one has said that "very little of the gut refuse goes a long way," and very wisely so. Therefore all such matter must be kept away from the lard and tallow tanks and should find its way into the grease tank, provided it contains some raw fat. Otherwise a separate tank is set aside for all raw material containing but a little or no grease, which materials are cooked to facilitate the subsequent pressing in the hydraulic presses, to be converted into fertilizer by drying and grinding.

Every kind of offal goes into one tank or another, of course, but the ability to select the raw materials for the various individual tanks is what the tank man or party in charge must possess in order to obtain the largest percentage of the better grades of fat. There is the lard tank for the killing stuff, another one for the cuttings, the white grease tank, the various tallow tanks and also the offal tanks, the latter containing either the grease-producing materials or the grease-free stuff.

The hog killing tank receives the hog heads and the surplus feet which are not used in the pigs' feet department. The products are killing lard and a low grade of tankage, high in bone. A tank of the size already mentioned will take care of from 1,000 to 12,000 hogs killed.

Contents of the Tanks.

The trimmings and back fat and other fatty material from the hog cutting department are cooked by themselves in the so-called cutting tank, and furnish the cutting lard, which is considered superior to the killing lard on account of the harder consistency of the former. The total weight of such fats per tank is about 18,000 pounds, constituting the material from about 900 hogs.

Among the more important portions of the hog which yield the killing lard and the respective weights of the same we have the feet, 4.7 pounds per hog; shoulder trimmings, 5 to 6 pounds; neck bones, 2 to 3 pounds; back bones, $3\frac{1}{2}$ pounds; ham trimmings, $4\frac{1}{2}$ to 5 pounds; loin fat, $\frac{1}{2}$ to 2 pounds; belly trimmings, $1\frac{1}{2}$ to 2 pounds. The back fat skins yield from 50 to 60 per cent. of lard. The head bones weigh from 5 to 8 pounds per hog; head skins, 4; gut fat and paunch, 6 to 9; bung fat, $1\frac{1}{4}$ to 2; plucks, $3\frac{1}{2}$ to 5; ham facings, $1\frac{1}{4}$ to 2; giblets, $\frac{1}{4}$ to $\frac{1}{2}$; gullets, $\frac{1}{4}$ to $\frac{3}{4}$; hearts, $\frac{1}{2}$; caul fat, $\frac{3}{4}$; cheek trimmings, $\frac{1}{4}$, and the kidney fat other than leaf lard weighs from $\frac{1}{4}$ to $\frac{1}{2}$ pound.

The yield of the lards approximates 7 to 9 pounds of killing and from 12 to 15 pounds of cutting lard per hog, equivalent to 41 per cent. of killing and 56 per cent. of cutting lard, taking the weight of the raw material as the basis for this calculation.

The tallow tank contents are made up of such material as the peckskins, paunches, the better grades of catch basin skimmings, the livers—whenever there appears to be some fatty matter left on them—the tripe and all similar materials. The more valuable tallow stuff is put into the butter stock tank; such items are the cutting bones from

the beef cutting department, cutting skins, rennets, oleo pickings, oleo catch basin skimmings, gullets, windpipes, heart tops, bung guts, small guts, neck fat, etc., all of course, washed and scrupulously clean.

The pluck tank contains the livers, plucks, hearts and similar material, when such is free from fat. This latter tank is frequently cooked open and not under pressure, the purpose of the cooking being merely the coagulation of the blood and other albuminoids, and to soften the organs for the better pressing of the same in the hydraulic press thereafter.

The offal tank contains the remainder from the catch basin skimmings, offal and the dirty scrapings from the floors of the entire plant. The resultant fat from this tank is the grease of various grades. Dirty residue from the various pork departments are kept in a separate tank for the production of the white hog grease.

When pickled hog stuff is being trimmed, such trimmings are rendered by themselves in what is known as the salt lard tank. This tank is usually cooked with the blow-off valve open for about four hours, when the valve is closed and an additional four hours of cooking is applied.

[The eighth in this series of articles on "Handling Packinghouse Products," will deal further with the rendering of lard and tallows of various grades. It will appear in an early issue of *The National Provisioner*.]

SOUTH AMERICAN BANKING CREDITS

One of the reasons for the interruption of meat shipments from South America has been the question of banking arrangements and credits. Argentine cattle raisers demanded gold for their cattle, and meat shipments had to be paid for in gold before shipment. The result was a temporary blocking of shipments. It is reported that this situation is improving, as new arrangements are made for credit and banking facilities in South America.

A manufacturer's view of the financial environment of the trade of the United States in Argentina, Brazil, Chile, and Peru, given in a bulletin just issued by the Bureau of Foreign and Domestic Commerce, is of special interest at the present time, when American manufacturers are looking to that field for enlarge business.

No attempt is made in the bulletin to provide a technical banking report. The facts presented concern the financial conditions surrounding American trade, the disadvantages under which our exporters labor, and the experiences of other nations that have considered over-sea banking operations essential to their conquest of foreign trade. The bulletin contains lists of the principal foreign and native banks in these countries, a brief description of their monetary systems, a summary of their foreign trade, a brief outline of their banking laws, and a discussion of banking practice, credit-information service, and exchange methods.

A chapter is devoted to a discussion of the various methods for establishing American banks in these countries and their field of operation. Copies of the bulletin (Special agents' series No. 90) may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 10 cents each.

PRACTICAL POINTS FOR THE TRADE

ACTUAL PACKINGHOUSE TESTS.

[EDITOR'S NOTE.—Every packinghouse superintendent keeps a record of tests, which is his most precious possession, and which serves him as a guide and reference in succeeding operations. It is only actual tests that tell the story in packinghouse practice; theory is all right, but practical results are a necessary guide always. The National Provisioner has printed on this page of "Practical Points for the Trade" many tests of this sort, in answering inquiries from subscribers. It has many more of these test results at its command, and will publish them from time to time for the general information of readers, instead of withholding them until some specific inquiry is made.]

PORK CRACKLINGS FOR POULTRY.

A Pennsylvania subscriber writes as follows:

Editor The National Provisioner:

Can you give us a recipe for making poultry food from pork cracklings?

As recently as July 11 The National Provisioner published information on this subject, in answer to a similar inquiry, as follows:

Cracklings are the residue from open-kettle lard or tallow rendering, and are composed of meat fibers containing considerable quantities of such respective fats. As these fats have a higher market value than the poultry food itself, it is the usual custom to tank these cracklings in separate pressure tanks when poultry food is to be manufactured from them.

After rendering under pressure there remain sufficiently large quantities of fat to make the cracklings of value as a poultry food, containing now approximately 10 to 15 per cent. of fat, and from 30 to 60 per cent. of proteid matter. It will be seen from these figures that this product constitutes a very rich food material; so much so, in fact, that the cracklings are usually mixed with other and less nourishing ingredients, especially with ground, raw bone, for the supply of bone phosphate, which is always necessary for a complete poultry food.

The cracklings may be sold at such immediately after the pressure cooking, or they may be mixed with the bone as stated, and then further reduced by some low-grade material, such as chaff, ground alfalfa and the like, when a complete food is obtained.

The proportions of the various materials employed vary, of course, with the fancy of

the manufacturer and with the price which may be obtained. A convenient formula is 20 per cent. of cracklings, 20 per cent. of ground raw bone, and 60 per cent. of the low-grade ingredient. It should be observed that all of the material must not be in a powdered condition, and that in order to obtain this condition, either the ingredients separately or the mixture should be screened through a mesh of about 20, whereas the largest particles must pass through an 8 mesh screen.

HANDLING SAUSAGE CASINGS.

A slaughterer in the Middle West writes as follows:

Editor The National Provisioner:

What is the proper and best way to handle guts, weasands and bladders? Why are so many bladders damaged in handling by the butchers?

To fat and scrape middle guts, always begin at the fat end; to slime, begin at the bung gut end. Always put the string in the middle on round guts. In running rounds, run off in two pieces, so as to separate export and domestic, and to make them easier to handle.

Weasands lead from throat to paunch and lay next to the windpipe. After being removed they should be thoroughly rinsed with cold water, and after being skinned should be soaked in cold water half an hour or so. One man can skin about 250 per hour. Weasand meat is all removed and taken at once to the cooler. After the weasand is turned it is tied and blown and put in the drying room for about 12 hours at a temperature of 120 to 130 degs. Fahr.

Bladders are taken out on the beef bed and trimmed—one boy can trim about 200 per hour—then soaked overnight in a cold mild pickle. It takes about twelve hours to dry bladders in a temperature of 120 to 130 degs. Fahr.

There are about five grades in bladders. There is no reason why any bladders should be cut by the butchers, however. Five per cent. may be a fair estimate of those thus destroyed. Reasonable care would wipe out even this small percentage.

MORE ABOUT SKIPPER FLY.

In addition to the information given to a Canadian subscriber last week concerning the skipper fly, the following will be of interest:

The skipper fly has for ages been the chief enemy of the cheesemaker, the best and richest of his product being most liable to its attack. One cheesemaker says:

"We cover all windows and doors with very fine screen, as the skipper fly can easily pass through the ordinary fly screen. We use fly paper to quite an extent, which helps considerably. We are afraid to use chemicals, as they might injure the quality and flavor of the cheese.

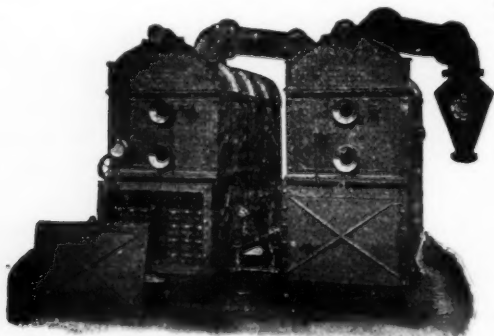
"These flies deposit their eggs on the outside of the cheese, and in 30 to 36 hours they begin to squirm and work their way inside, so we usually go through the rooms twice a day and look for eggs. These are easily detected on the smooth surfaces, but if the bandage is wrinkled or cracked we are liable to overlook them; then we find trouble."

In this connection we are informed that the fumes of bi-sulphide of carbon are used against the grain weevil with good results, as the fumes are very penetrating and very deadly to all insect life, and do not injure the grain, either for milling or seeding. On account of its inflammability, however, great care must be exercised in the use of bi-sulphide of carbon.

FOREIGN COMMERCIAL EXCHANGE.

New York, September 18.—Foreign commercial exchange rates are demoralized by the war situation, but are improving slightly, as the following shows:

London—	
Cable transfers	4.96½
Demand sterling	4.95½ @ 4.95½
Commercial, sight	4.95½
Paris—	
Commercial, 90 days	No quotations.
Commercial, 60 days	No quotations.
Commercial, sight	No quotations.
Bankers' checks	5.11
Bankers' cables	5.10
Berlin—	
Commercial, sight	No quotations.
Bankers' sight	96¼ @ 96½
Cable transfers	96¼
Antwerp—	
Commercial, 90 days	No quotations.
Amsterdam—	
Commercial, 60 days	No quotations.
Bankers' sight	40¼



There's Big Money In It—

The manufacture of fertilizer from tank water is recognized by aggressive packers as an extremely valuable side line. This tank water, formerly thrown away, is now used as the raw material for turning a former waste into large dividends. One of the Chicago packers reports an annual income from this source alone of more than \$100,000, all of which was formerly wasted. In this plant, the value is recovered by means of two large

SWENSON EVAPORATORS

The fact that every one of the prominent packers in the United States uses Swenson Evaporators for this purpose, some of them having more than 30 in their different plants, and that practically every one

of these was ordered after the concern had had experience with the first order, shows that this apparatus is better adapted to this work than any other type which has yet been developed.

SWENSON EVAPORATOR CO.

945 Monadnock Block

(Formerly American Foundry & Machinery Co.)

CHICAGO, U. S. A.

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FIXING MEAT PRICES

Is it illegal for a manufacturer to fix a price for his product which is based on cost of material, manufacture and marketing? What other way would he have of arriving at an intelligent idea of the price to charge for his output? The bankruptcy courts are full of merchants who have tried to do business on a "guess" basis. The successful business man realizes that he must figure his costs closely and know what to charge for his stock in trade.

Yet it seems that if the meat packer follows this simple and vital business rule he is doing something illegal or reprehensible. The taint of criminality appears to attach itself to the phrase "fixing prices" when applied to the meat business. Why should not the meat

packer or the meat dealer operate under the same laws of business as any other business man?

The packer pays so much for his livestock, the cost of slaughtering, packing, refrigeration, freight and other marketing expense is so much, and overhead charges are possible to estimate with reasonable accuracy. With these figures before him, the packer may estimate his selling price, and inform his selling representative accordingly.

What is there in this process which is illegal, or even improper? The selling representative may be given these cost figures and allowed to use his own discretion as to selling price, or he may be given a selling price fixed by the packer as based on these figures, and instructed to adhere to such fixed price as nearly as possible. What difference does it make which method is pursued?

As a matter of fact there are few commodities whose selling price varies from day to day as does the price of meats. The salesman usually has before him the cost figures relating to every lot of meat given to him to sell. He is supposed to get a certain price, based on these figures. Sometimes he does it, and then again he doesn't. It depends on market conditions and salesmanship.

Much the same process is followed in every well-regulated business. There is absolutely nothing illegal or improper about it, and no comment or criticism is ever heard, except in the case of the meat trade. Demagogues and sensational newspapers have led the public to believe that there is an atmosphere of mystery and crookedness about the conduct of the meat business, and that the meat man's way of doing business is wrong per se.

We have been confronted again in recent days with the spectacle of presumably intelligent public officials—even learned judges—asking questions in food price hearings which display this remarkable denseness of mind. A packinghouse salesman on the stand in Brooklyn admitted that he sold meat according to the business method herein outlined, and the comment might have been expressed in these words: "Aha! I thought so!" The inference was that crookedness had been uncovered, and the newspapers did not hesitate to convey such an impression.

What did it matter whether the salesman used his own judgment as to sales price, based on the information he had, or whether he took as his bargaining basis a price fixed for him by his superior? Was either method illegal, or even reprehensible?

This belief that "fixing prices" in the case of meats means something wrong seems to extend even as high as the judicial bench, and indicates the extent to which the public mind has been poisoned concerning the meat industry and its methods.

B OOSTCOTTONSEEDPRODUCTS

With the foreign markets for cottonseed oil and cake and meal cut off by the war, the producers of these products are puzzled over the problem of developing an outlet for this surplus. Aid has been asked of the government to develop home markets, especially for cottonseed meal and hulls among farmers and cattle feeders of the North and West.

This is where the cottonseed products associations come in, and they are doing good work. Colonel Jo W. Allison, of Texas, has been to Washington in the interest of the trade and has got the Departments of Agriculture and Commerce to work, as well as securing the introduction in Congress of measures tending in this direction. Officers of various State associations are active also.

The tone of a letter sent out by the hustling Secretary C. E. McCord, of the Alabama association, is characteristic. He tells the oil mill men that they must practice the old-fashioned golden rule, and talk the merits of meal and hulls as a livestock feed.

He believes that the question of a market for meal could in a measure be relieved if every mill would adopt a liberal policy of exchanging meal and hulls for seed. Just what basis of exchange to offer is something each mill will have to figure for itself, but the mill must make it to the interest of the seed producer to exchange his seed for meal and hulls. This will help the miller's bank account and at the same time relieve the market of a large quantity of meal that is demoralizing the price.

Secretary McCord urges the millers to encourage the feeding of cattle, for on cattle he believes largely depends the success of the oil mill business. The merits of cottonseed oil as an edible product have been forced on the people, and a little missionary work among the millers' own people in the South will bring out the many good qualities of cottonseed meal as a food. The success of the oil mill man depends on the work he does individually, and Secretary McCord tells him to "buckle in with a bit of grin, take off your coat and go to it." Which is the right sort of talk!

WHAT BEEF COSTS PACKERS

Packers at Chicago last week were compelled to pay 11 cents per pound alive for the best steers, and the poorest cost above 7 cents. On Monday of this week the 11-cent mark was again reached, and once more the poorest steers cost over 7 cents. At New York this week live steers brought 10.40 cents for the best, and 8.50 cents for the poorest, compared to a range of 7.00 to 8.40 cents a year ago. With packers paying such prices as these for their raw material, it is an interesting sidelight on the renewed attack which sensationalists are making on the trade because of the high prices of meat.

OUTLINE OF FEDERAL TRADE COMMISSION LAW

Business Organizations of Every Kind Come Under It

Both houses of Congress have passed the bill for a federal interstate trade commission, to regulate trade as the Interstate Commerce Commission now regulates the railroads. The bill is before the President for his signature and will undoubtedly be approved. The bill empowers the commission to regulate corporations engaged in both interstate and foreign commerce.

Corporations subject to the commission are defined to include all associations, even without capital stock, organized to carry on business for their own profit or the profit of their members. The commission is expressly directed to continue all pending investigations of the Bureau of Corporations.

Unfair methods of competition by individuals, partnerships, or corporations, instead of "unfair competition," are declared unlawful, and the commission is given a specific duty to prevent these methods of competition. Persons who bring such methods to the attention of the commission may intervene in proceedings.

Before beginning a proceeding regarding a method of competition the commission must not only have reason to believe it is unfair, but it must also believe that a proceeding by the commission in regard to the matter will be to the interest of the public. Having come to affirmative conclusions on these two preliminary points, the commission will serve a complaint stating the charges of the commission and setting a time at least 30 days in the future for the defendants to show cause why the commission should not order a termination of the methods in question.

If the commission issues an order for the discontinuance of a practice, and the order is not obeyed, or if the persons against whom an order is made wish to contest it, appeal will be made directly to the Federal circuit court of appeals, the decision of which is to be final unless the Supreme Court grants a writ of certiorari. Upon appeal to the circuit court of appeals, the whole record, including the testimony, is to be sent to the court by the commission.

The court will not be authorized to go into the facts or the conclusions of the commission, except to see that there was evidence

to support the commission's findings. In the court either the commission or the defendants may offer new evidence not available before, and if the court considers this evidence material it is to remand the case to the commission that the evidence in question may be received. Proceedings in the circuit court of appeals are to be expedited.

The requirement that corporations with capital of \$5,000,000 or more have agents in Washington on whom orders of the commission may be served has been stricken out of the bill. Authority for the commission to investigate the financial condition of corporations under its jurisdiction also has been cut out. An express requirement to conduct investigations at the direction of the President or of either House of Congress has been inserted. The commission may make recommendations for the readjustment of the affairs of a corporation only upon request of the Attorney General.

The commission may investigate trade conditions in foreign countries affecting our foreign commerce, but with a requirement that the commission take up this subject as expeditiously as possible.

When a court is of the opinion that the Government is entitled to a decree in an equity suit under the anti-trust laws, the question of the decree to be entered cannot be referred to the commission upon motion of any party, but only at the discretion of the court.

MARKETS FOR COTTONSEED MEAL.

Government assistance in the developing of home markets for cottonseed meal and cake heretofore exported to Europe is being sought, and the Senate Committee on Agriculture has reported favorably to the Senate a resolution by Senator Sheppard, of Texas, which has for its purpose the creating of a wider domestic market for cottonseed meal and cake.

The resolution directs the Secretary of Commerce to investigate the possibility of wider domestic markets for these products in various sections of the United States, and he is directed to report to Congress at his earliest convenience a plan for acquainting the country with the value and availability of

these products as a feed for domestic animals and for the marketing in these sections of the surplus of these products heretofore sent to European countries.

The resolution states that 500,000 tons of cottonseed meal and cake which have heretofore been annually exported from the United States by reason of the war conditions abroad are now without a market, the surplus equaling about one-third of the total output. It further states that the dumping of this surplus on the domestic market will depress both of the raw and finished products to such an extent as to cause disastrous losses to producers of the raw material.

TRADE GLEANINGS.

D. H. Swartz, Dallas, Tex., contemplates building a soap factory to cost \$50,000.

The Marbury Oil and Fertilizer Company, Marbury, Ala., contemplates erecting a building to cost \$15,000.

The Board of Trade of Brunswick, Ga., is negotiating with fertilizer manufacturers relative to establishing a factory.

The Reidsville Fertilizer Company, Reidsville, N. C., has been incorporated by James A. Moncure, president, and W. F. Burton, secretary and treasurer, with a capital stock of \$25,000.

The Alexandria Cotton Oil Company, Alexandria, La., has been incorporated with a capital stock of \$80,000, with the following officers: S. B. Brown, president; A. P. Coles, vice-president; R. G. Riley, secretary and treasurer.

The Montgomery Pulverizing Company, Mt. Sterling, Ky., will operate a plant to pulverize limestone. This company was recently incorporated by James Hutsell, president; W. A. Sutton, vice-president; H. R. Prewitt, secretary and treasurer, with a capital stock of \$1,500.

There are plenty of men out of employment, but a good packinghouse man need never be idle if he makes use of the "Wanted" department of The National Provisioner.

MEAT HOGSHEADS

WOODEN

TANKS and VATS

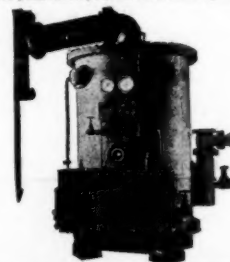
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PROVISIONS AND LARD

WEEKLY REVIEW

All articles under this head are quoted by the barrel, except lard, which is quoted by the hundredweight in tierces, pork and beef by the barrel or tierce and hogs by the hundredweight.

Prices Irregular—Values Unsettled—Distribution Quiet—Hog Movement Moderate—Packing Light—Product Stocks Decreasing.

The movement of hog product values during the past week has shown a further declining tendency in ribs and pork. Lard, after displaying some weakness, has steadied, due to some decrease in stocks. Trading in the future market has been rather quiet, and the interest has, seemingly, been restricted to the daily in and out operations against cash product, with only a moderate speculative interest developing from day to day. The tendency of values has not been very clear, but there has been some disappointment at the volume of demand, and this has affected sentiment to a considerable extent.

The movement of hogs is not very large, and the packing the past week showed a very disappointing total. The total packing for the week was 248,000 against 381,000 the preceding week and 424,000 last year; the packing for the week was affected, to some extent, by the holiday (Labor Day), but the movement of hogs continued moderate, and is, at the leading points, running only 50,000 to 70,000 hogs a day. The total receipts of hogs last week at the six leading points were 82,000 less than the preceding week and 148,000 less than for the corresponding week last year. There was also an important falling off in the movement of sheep and cattle compared with last year.

Livestock values have continued quite firm, and the average of prices is well maintained. Prices are now ruling about $\frac{1}{4}$ c. per pound under last year, and about the same amount over those of two years ago.

Product values are very steady compared with last year for meats, but lard shows a loss of fully $1\frac{1}{2}$ c. per pound on near positions compared with last year. Recent prices on ribs show a relative gain of a fractional amount compared with last year, while January pork has been about a dollar a barrel over last year.

The low prices for lard are somewhat disappointing, considering the movement of hogs and the decreasing packing, but it is possibly due to the falling off in the foreign demand, as well as a decidedly conservative feeling in the domestic trade. Exports of lard from the leading ports last week were only 4,902,000 pounds, and the decrease since November 1 has been 136,766,000 pounds compared with the preceding year. Low prices for compound lard and for cottonseed oil have also had a good deal of effect on the relative demand and price for Western lard.

Stocks of product, as reported for the mid-month at Chicago were somewhat less than anticipated. The stock of lard showed quite an important decrease, and this led to a quick rally in values the middle of the week. The stock of lard is, however, still of quite good proportions, and this is a feature which has some little influence in restricting the volume

of speculative buying. The comparative figures follow:

	Sept. 15, 1914.	Sept. 1, 1914.	Sept. 15, 1913.
Mess pork, new, bbls.	29,183	30,272	12,501
Lard, new, tes.	145,277	179,784	114,857
Lard, old, tes.	300	3,986
Short rib sides, lbs.	11,659,031	11,715,787	10,080,000
Extra S. C. sides, lbs.	4,470,114	4,926,675	6,634,448

The question of the movement of hogs this fall is one which is of paramount importance. Feed values are relatively high, and compared with last year the prospects indicate maintained high quotations. Corn broke materially after this time a year ago, and particularly when it was influenced by the price of Argentine corn. Oats were also weak, and sold down 12@15c. per bushed. This year the prospects for oats values, with the enormous foreign demand, are for maintained high levels. On the other hand, the demand for mill feeds is unsatisfactory and prices are weak, while there is a prospect of a large supply and low prices for cottonseed cake and meal. The weather conditions have been very favorable through the entire country west of the Alleghenies for fall forage crops, and with late frost there will be a large amount of rough forage and feed, so that grain will have to be used only for finishing.

Reports quite generally indicate a somewhat larger supply of hogs in the country than a year ago, although the government statistics were rather disappointing in the total quantity. The better average condition, however, and greater degree of healthfulness, will probably lead to a much larger supply of hogs available for market than was the case a year ago. In fact, the losses from disease the last two or three years, if they could be eliminated, would add 10 to 15 per cent. to the total packing as reported at the leading packing points.

From Chicago came the report that the large meat and hog packing interests were taking an active part in the Southern "buy-a-bale-of-cotton" movement, hoping thereby to stimulate the Southern demand for meats which has been materially affected by the cotton situation.

LARD.—The market remains quiet and about steady. Moderate foreign business was reported early in the week, but trading was quiet later. City steam, 9 $\frac{1}{2}$ c. nom.; Middle West, \$9.80@9.90 nom.; Western, \$9.80@9.90; refined Continent, \$10.70 nom.; South American, \$11.35 nom.; Brazil, kegs, \$12.35; compound lard, 8 $\frac{1}{4}$ @8 $\frac{1}{2}$ c.

PORK.—Prices have again felt the lower Western markets. Values have been reduced with light trade. Mess is quoted \$23@24 nom.; clear, \$23@26 nom.; family, \$26@28.50.

BEEF.—The market is very quiet. Prices are nominal, with only small trading. Stocks are light, with very little available for packing owing to the large demand for canning. Quoted: Family, \$30@32 nom.; mess, \$23@24 nom.; packet, \$25@26 nom.; extra India mess, \$40@45 nom.

SEE PAGE 29 FOR FRIDAY'S MARKETS.

Packhouse, provision, refrigeration and other machinery and equipment at second-hand. Buy it or sell it through The National Provisioner's "Wanted and For Sale" department.

EXPORTS OF HOG PRODUCTS.

Exports of hog products from New York reported up to Wednesday, September 16, 1914:

BACON.—Bergen, Norway, 65,985 lbs.; Bocas del Toro, 517 lbs.; Buenos Aires, A. R., 4,620 lbs.; Calabar, —, 623 lbs.; Christiania, Norway, 39,208 lbs.; Colon, Panama, 9,769 lbs.; Cuba, 89,553 lbs.; Drontheim, Norway, 12,812 lbs.; Glasgow, Scotland, 70,200 lbs.; Hamilton, Bermuda, 1,416 lbs.; Havana, Cuba, 40,395 lbs.; Havre, France, 206,463 lbs.; Hull, England, 90,519 lbs.; Lagos, Nigeria, 1,162 lbs.; Liverpool, England, 1,021,923 lbs.; Manzanillo, Cuba, 94,472 lbs.; Matanzas, W. I., 3,815 lbs.; Newcastle, England, 47,272 lbs.; Nuevitas, Cuba, 6,650 lbs.; Para, Brazil, 4,158 lbs.; Paramaribo, Dutch Guiana, 1,203 lbs.; Rotterdam, Holland, 13,025 lbs.; St. Johns, N. F., 2,428 lbs.; Santiago, Cuba, 86,904 lbs.; Tampico, Mexico, 2,087 lbs.; Trinidad, Island of, 419 lbs.; Turks Island, Bahamas, 648 lbs.; Vera Cruz, Mexico, 1,784 lbs.

HAMS.—Algoa Bay, Cape Colony, 630 lbs.; Barcelona, Spain, 13,013 lbs.; Bocas del Toro, 1,006 lbs.; Bolivia, 935 lbs.; Bridgetown, W. I., 1,711 lbs.; Calabar, —, 1,752 lbs.; Callao, Peru, 568 lbs.; Cartagena, Colombia, 568 lbs.; Colon, Panama, 10,382 lbs.; Cristobal, Panama, 4,098 lbs.; Cuba, 5,238 lbs.; Demerara, British Guiana, 4,405 lbs.; Glasgow, Scotland, 228,475 lbs.; Guadeloupe, W. I., 2,864 lbs.; Havana, Cuba, 6,156 lbs.; Hull, England, 259,997 lbs.; Kingston, W. I., 2,444 lbs.; Lagos, Nigeria, 2,427 lbs.; La Guaira, Venezuela, 13,724 lbs.; Leith, Scotland, 6,534 lbs.; Liverpool, England, 982,339 lbs.; London, England, 3,853 lbs.; Manzanillo, Cuba, 30,055 lbs.; Matanzas, W. I., 2,655 lbs.; Monte Cristi, S. D., 6,471 lbs.; Nassau, Bahamas, 2,820 lbs.; Newcastle, England, 94,512 lbs.; Nuevitas, Cuba, 7,142 lbs.; Paramaribo, Dutch Guiana, 1,477 lbs.; Port Limon, C. R., 2,295 lbs.; St. Thomas, W. I., 1,825 lbs.; Santiago, Cuba, 21,134 lbs.; Savanilla, Colombia, 932 lbs.; Stockholm, Sweden, 2,881 lbs.; Tampico, Mexico, 7,072 lbs.; Trinidad, Island of, 3,184 lbs.; Turks Island, Bahamas, 649 lbs.; Vera Cruz, Mexico, 6,741 lbs.

LARD.—Aberdeen, Scotland, 46,893 lbs.; Algoa Bay, Cape Colony, 62,130 lbs.; Amsterdam, Holland, 9,500 lbs.; Barcelona, Spain, 2,800 lbs.; Belize, British Honduras, 4,700 lbs.; Bergen, Norway, 114,795 lbs.; Bolivia, 3,650 lbs.; Bridgetown, W. I., 8,014 lbs.; Buenaventura, Colombia, 32,421 lbs.; Calabar, —, 3,000 lbs.; Callao, Peru, 5,000 lbs.; Cardiff, Wales, 14,000 lbs.; Cartagena, Colombia, 9,513 lbs.; Christiania, Norway, 137,697 lbs.; Copenhagen, Denmark, 431,838 lbs.; Cristobal, Panama, 39,134 lbs.; Cuba, 27,950 lbs.; Curacao, Leeward Islands, 5,282 lbs.; Delagoa Bay, East Africa, 4,500 lbs.; Demerara, British Guiana, 16,005 lbs.; Drontheim, Norway, 24,750 lbs.; Glasgow, Scotland, 155,795 lbs.; Guadeloupe, W. I., 2,195 lbs.; Guayaquil, Ecuador, 12,626 lbs.; Hamilton, Bermuda, 15,043 lbs.; Havana, Cuba, 35,638 lbs.; Havre, France, 1,555,471 lbs.; Hull, England, 328,165 lbs.; Iquique, Chile, 18,000 lbs.; Kingston, W. I., 9,100 lbs.; Lagos, Nigeria, 30,200 lbs.; La Guaira, Venezuela, 28,279 lbs.; Leith, Scotland, 11,371 lbs.; Liverpool, England, 1,284,497 lbs.; London, England, 78,275 lbs.; Manila, P. I., 3,000 lbs.; Manzanillo, Cuba, 171,751 lbs.; Matanzas, W. I., 65,824 lbs.; Monte Cristi, S. D., 25,419 lbs.; Nassau, Bahamas, 17,715 lbs.; Newcastle, England, 94,375 lbs.; Nuevitas, Cuba, 39,990 lbs.; Palermo, Sicily, 23,780 lbs.; Para, Brazil, 4,000 lbs.; Port Limon, C. R., 12,354 lbs.; Rotterdam, Holland, 909,921 lbs.; St. Johns, N. F., 35,610 lbs.; St. Thomas, W. I., 18,803 lbs.; Santiago, Cuba, 118,929 lbs.; Savanilla, Colombia, 13,075 lbs.; Stavanger, Norway, 17,500 lbs.; Stockholm, Sweden, 28,265 lbs.; Trini-

dad, Island of, 90,450 lbs.; Turks Island, Bahamas, 5,980 lbs.; Vera Cruz, Mexico, 61,128 lbs.

PORK.—Bergen, Norway, 6 bbls.; Bridgetown, W. I., 59 bbls.; Cadiz, Spain, 15 bbls.; Cayenne, French Guiana, 3 bbls.; Christiania, Norway, 15 bbs.; Colon, Panama, 4 bbls.; Cristobal, Panama, 50 bbls.; Demerara, British Guiana, 371 bbls.; Glasgow, Scotland, 50 bbls.; Halifax, N. S., 25 bbls.; Hamilton, Bermuda, 5 bbls.; Havana, Cuba, 33 bbls.; Hull, England, 25 bbls.; Kingston, W. I., 47 bbls.; Liverpool, England, 100 bbls.; London, England, 100 bbls.; Monte Cristi, San Dom., 25 bbls.; Nassau, Bahamas, 35 bbls.; Newcastle, England, 112 bbls.; Paramaribo, Dutch Guiana, 112 bbls.; Port Limon, C. R., 20 bbls.; St. Johns, N. F., 220 bbls.; St. Thomas, W. I., 42 bbls.; Savanilla, Colombia, 20 bbls.; Trinidad, Island of, 240 bbls.; Turks Island, Bahamas, 14½ bbls.

PORK FEET.—Cuba, 25 bbs.; Havana, Cuba, 100 bbs.; Trinidad, Island of, 56 tes.

PORK HEADS.—Curacao, Leeward Islands, 29 bbls.

PORK SNOOTS.—Bridgetown, W. I., 39 bbls.; Cayenne, French Guiana, 78 bbls.; Demerara, British Guiana, 215 bbls., 10 tes.; Guadeloupe, W. I., 25 bbls.; St. Thomas, W. I., 12 bbls.

PORK TAILS.—Cayenne, French Guiana, 26 bbls.; Demerara, British Guiana, 25 tes., 25 bbls.; Guadeloupe, W. I., 27 bbls.; Port Limon, C. R., 5 bbls.

SAUSAGES.—Cristobal, Panama, 145 bbs.; Monte Cristi, San Dom., 51 pa.; Savanilla, Colombia, 2 cs.

EXPORTS OF BEEF PRODUCTS.

Exports of beef products from New York reported up to Wednesday, September 16, 1914:

BEEF.—Algoa Bay, Cape Colony, 20 bbls.; Belize, British Honduras, 45 bbls.; Bridgetown, W. I., 60 bbls.; Cardiff, Wales, 35 tes.; Cayenne, French Guiana, 50 bbls.; Christiania, Norway, 70 bbls.; Copenhagen, Denmark, 50 bbls.; Demerara, British Guiana, 735 bbls.; Glasgow, Scotland, 50 tes.; Guadeloupe, W. I., 25 bbls.; Halifax, N. S., 90 bbls.; Hamilton, Bermuda, 52 bbls.; Hull, England, 50 tes.; Kingston, W. I., 13 bbls.; London, England, 232,869 lbs.; Monte Cristi, San Dom., 7½ bbls.; Nassau, Bahamas, 13 bbls.; Nuevitas, Cuba, 10 bbls.; Paramaribo, Dutch Guiana, 148 bbls.; Port Antonio, W. I., 7 tes.; Port Limon, C. R., 30 bbls.; St. Johns, N. F., 670 bbls., 50 tes.; St. Thomas, W. I., 6 bbls.; Savanilla, Colombia, 22 bbls.; Seville, Spain, 5 tes.; Trinidad, Island of, 145 bbls.; Turks Island, Bahamas, 14½ bbls.

FRESH MEATS.—Colon, Panama, 106,918 lbs.; Cristobal, Panama, 146,699 lbs.; Hamilton, Bermuda, 2,016 lbs.; Havana, Cuba, 2,645 lbs.; Liverpool, England, 48,301 lbs.

OLEO OIL.—Aarhus, Denmark, 70 tes.; Bergen, Norway, 280 tes.; Christiania, Norway, 175 tes.; Copenhagen, Denmark, 1,225 tes.; Drontheim, Norway, 175 tes.; Glasgow, Scotland, 100 tes.; Liverpool, England, 130 tes.;

London, England, 23 tes.; Malmo, Sweden, 100 tes.; Rotterdam, Holland, 2,645 tes.; St. Johns, N. F., 100 tes.; Stavanger, Norway, 220 tes.; Stockholm, Sweden, 140 tes.

From Baltimore, Md., to Rotterdam, Holland, 66,922 lbs.

OLEO STOCK.—Drontheim, Norway, 35 tes.

OLEOMARGARINE.—Belize, British Honduras, 2,200 lbs.; Bridgetown, W. I., 53,570 lbs.; Cristobal, Panama, 4,210 lbs.; Curacao, Leeward Islands, 2,284 lbs.; Demerara, British Guiana, 1,500 lbs.; Guadeloupe, W. I., 3,550 lbs.; Havana, Cuba, 4,900 lbs.; Monte Cristi, San Dom., 2,300 lbs.; Nassau, Bahamas, 2,075 lbs.; Port Limon, C. R., 900 lbs.; St. Thomas, W. I., 8,800 lbs.; Savanilla, Colombia, 1,000 lbs.; Trinidad, Island of, 6,200 lbs.

TONGUES.—Bridgetown, W. I., 5 bbls.; Havana, Cuba, 20 bbls.; Hull, England, 495 pa.; Liverpool, England, 371 pa.; 119 cs.; London, England, 246 pa.

CANNED MEATS.—Algoa Bay, Cape Colony, 373 pa.; Batavia, Java, 12 cs.; Bolivia, 60 cs.; Bristol, England, 326 cs.; Calabar, 50 cs.; Cardiff, Wales, 50 cs.; Colon, Panama, 27 cs.; Cristobal, Panama, 99 cs.;

Demerara, British Guiana, 15 cs.; Hamilton, Bermuda, 166 cs.; Havana, Cuba, 43 cs.; Havre, France, 45,471 lbs.; Hull, England, 192 cs., 100 pa.; Kingston, W. I., 200 pa., 70 cs.; Lagos, Nigeria, 2,600 cs.; La Guaira, Venezuela, 43 pa.; Liverpool, England, 250 pa., 91 cs.; London, England, 24 pa.; Manchester, England, 25 cs.; Monte Cristi, San Dom., 13 pa.; Newcastle, England, 59 pa.; Nuevitas, Cuba, 128 cs.; Palermo, Sicily, 50 pa.; Piraeus, Greece, 163 cs.; Samarang, Java, 700 pa.; Santiago, Cuba, 100 cs.; Savanilla, Colombia, 118 cs.; Tampico, Mexico, 6 cs.; Trinidad, Island of, 35 cs.; Valparaiso, Chile, 15 cs.; Vera Cruz, Mexico, 111 cs.

LIVESTOCK AND BEEF EXPORTS.

Exports of livestock and dressed beef from United States and Canadian ports for the week ending September 12, 1914, are reported by Williams & Terhune as follows:

Port.	Cattle.	Sheep.	Beef.
From New York	—	—	—
From Boston	—	—	—
From Philadelphia	—	—	—
From Baltimore	—	—	—
From Montreal	—	—	—
Total	—	—	—
Total last week	—	—	—

FRESH MEAT AND OFFAL IMPORTS

Imports of fresh beef into the port of New York for the past week amounted to 41,693 quarters, compared to nothing last week and nothing two weeks ago. Mutton imports were 1,966 sheep and 3,468 lambs, compared to nothing last week. There were also 1,060 cases of canned meats, all from South America. Arrivals of by-products included 3,629 bags of offal, chiefly sausage meats, etc.

EXPORTS SHOWN BY STEAMERS.

Exports of commodities from New York to foreign ports for the week ending Thursday, September 10, 1914, as shown by Williams & Terhune's report, are as follows:

Steamer and Destination.	Oil Cake.	Cottonseed Bags.	Bacon and Hams.	Tallow.	Beef.	Pork.	Lard.
New York, Liverpool			123				200 50
Cedric, Liverpool			2158			182	25 550
Mauretania, Liverpool		50	775				350 500
Philadelphia, Liverpool			519				
Minnehaha, London		2000					70 2049
Columbia, Glasgow			692			100	
Ryndam, Rotterdam	15746	199	100			870	750
Sloterdijk, Rotterdam	1300						
Espagne, Havre						325	7692
Hellig Olav, Baltic						100	
River Araxes, Mediterranean		50					
Principessa Mafalda, Mediterr'n			65				200
San Guglielmo, Mediterranean			10				
Total	17046	2299	4442			282 1940	11791

OCEAN FREIGHTS ARE LOWER.

According to the freight bureau of the National Association of Manufacturers, freight rates to almost all countries are resuming normal conditions, and in all cases the initial increases have been reduced. Freight at the present time is scarce, and therefore shippers who are willing to take the chance and pay the war risks—war insurance, incidentally, has been considerably lowered, especially for the North Atlantic—will find plenty of space available upon most steamships. In consequence of the lowered rate of war insurance, 1½ per cent. upon English steamships, and from ½ to ¾ per cent. upon American steamships, shippers are advised to insure all goods.

Shipping conditions are improving. The Cunard, White Star, Red Star, and American lines are maintaining five or six sailings weekly to Liverpool; the French Line is sending off regular steamships to Havre; vessels of the Holland-American Line are maintaining communication with Rotterdam; sailings to Scandinavia, Portugal, Spain, Italy, Greece, and Mediterranean and Levant ports are assured.

EXPORTS OF PROVISIONS

Exports of hog products for the week ending Sept. 12, 1914, with comparisons:

To—	Week ending Sept. 12, 1914.	Week ending Sept. 13, 1913.	From Nov. 1, '13, to Sept. 12, 1914.
United Kingdom ..	297	270	14,498
Continent	61	159	6,469
So. & Cen. Am.	260	190	10,194
West Indies	1,503	682	55,970
Br. No. Am. Col.	239	385	19,039
Other countries ..	—	—	366
Total	2,370	1,688	106,536

MEATS, LBS.

United Kingdom ..	5,184,375	4,585,375	247,922,270
Continent	578,875	1,011,800	17,693,065
So. & Cen. Am.	104,000	140,750	3,255,640
West Indies	78,000	63,825	7,206,150
Br. No. Am. Col.	—	—	206,300
Other countries ..	—	—	23,500
Total	5,945,250	5,801,750	276,306,925

LARD, LBS.

United Kingdom ..	2,222,840	3,943,424	195,837,621
Continent	1,855,294	2,499,406	125,167,293
So. & Cen. Am.	573,612	363,828	16,222,268
West Indies	243,470	243,740	18,734,068
Br. No. Am. Col.	6,570	35,740	467,395
Other countries ..	—	—	678,120
Total	4,901,786	7,080,138	357,106,765

RECAPITULATION OF THE WEEK'S EXPORTS.

From—	Pork, bbls.	Meats, lbs.	Lard, lbs.
New York	860	2,776,575	3,057,036
Boston	29	402,675	227,750
Philadelphia	61	7,600	45,000
New Orleans	1,620	182,000	806,000
Galveston	—	—	3,000
Montreal	—	1,837,000	735,000
Quebec	—	740,000	28,000
Total week	2,570	5,945,250	4,901,786
Previous week ..	3,470	4,363,900	4,578,720
Two weeks ago ..	1,273	4,170,175	6,958,370
Cor. week last y'r	1,686	5,801,750	7,080,138

COMPARATIVE SUMMARY OF EXPORTS.

	From Nov. 1, '13, to Sept. 12, '14.	Same time last year.	Changes.
Pork, lbs. ..	21,307,200	21,303,000	Inc. 4,200
Meats, lbs. ..	276,306,925	514,305,169	Dec. 37,999,244
Lard, lbs. ..	357,106,765	493,873,060	Dec. 136,766,285

OCEAN FREIGHTS.

[Owing to war conditions there are few standard rates.]

	Liverpool.	Glasgow.	Hamburg.
	Per ton.	Per ton.	Per 100 lbs.
Beef, per tierce	—	—	—
Oil cake	20c.	23c.	—
Bacon	—	—	—
Lard, tierces	—	—	—
Cheese	—	—	—
Canned meats	—	—	—
Butter	—	—	—
Tallow	—	—	—
Pork, per barrel	—	—	—

TALLOW, STEARINE, GREASE and SOAP

WEEKLY REVIEW

TALLOW.—Although tallow prices have not been shaded to a significant degree, there seems to be less strength to the market. This can be partly attributed to a modification of bullish ideas relative to the war and its far-reaching influences. The speculative demand for tallow seems to have been, temporarily, supplied, and those who actually need stuff are more conservative in their methods of purchasing. There is an undercurrent of uneasiness, nevertheless, and it is realized that with the trade so sensitive, it would not take a great deal of news to have a great deal of influence, one way or the other. Business recently has decreased. In some quarters the point is again made that the decline in cotton oil is having effect. With soap makers buying that product, the inquiry for tallow must, naturally, suffer more or less. No special increase in the production is observed, but interests with stuff to sell are not quite so independent.

Prime city tallow is quoted at 6½¢ nominal, and specials at from 6¾¢@7¢, with claims that the next sales of specials will be at the current bid price.

OLEO STEARINE.—The market has declined to about 10½¢; holders are unable to procure 11¢, which price they frequently mentioned. The demand from compounders has been quieter.

SEE PAGE 29 FOR FRIDAY'S MARKETS.

GREASES.—The situation is unchanged. Trade is quiet with buyers showing but limited interest and values are to a large extent nominal. Quotations are nominal, as follows: Yellow, 5¾¢@6¼¢ nom.; bone, 5¢@6¼¢ nom.; house, 5½¢@6¢ nom.

SOYA BEAN OIL.—Values are unchanged, with quotations nominal. Spot is quoted at 7@7¼¢.

PALM OIL.—The market is quiet and lower on larger arrivals. Some business has been done with England and the arrival of this oil and expectation of further arrivals are naturally having effect. Little or no business has been done direct. Prime red spot, 7½¢@8¢; to arrive, —; Lagos spot, 9@10¢; to arrive, —; palm kernel, 12@12½¢; shipment, —.

NEATSFOOT OIL.—Prices are nominal. For 20 cold test, 96@97¢; 30 do., 88¢; 40 do., water white, 80@82¢; low grade off yellow, 63¢.

COCOANUT OIL.—Values are quoted a little lower, with small trade. Prospects for importations are not good for immediate business. Some of the German works have been captured and difficulty of doing business with others is very great. It is reported that the works captured will be permitted to fill contracts already made, but no additional business will be permitted. Quoted: Cochin, 15@16¢; arrival, —; Ceylon, 12½¢@13½¢; shipment, —.

CORN OIL.—The market is dull and easy. Prices quoted at \$5.95@6.10 in car lots.

OLEO OIL.—The market is quiet and easier. Demand has been less active and with smaller interest. Values have receded. Extras are quoted at New York, 13¼¢@13½¢; No. 2, 10¢. Rotterdam is quoted at 74 florins.

GREEN AND SWEET PICKLED MEATS.

(Special Report to The National Provisioner from The Davidson Commission Co.)

Chicago, September 17.—Quotations on green and sweet pickled meats, f. o. b. Chicago, loose, are as follows:

Regular Hams—Green, 8@10 lbs. ave., 15@15¼¢; 10@12 lbs. ave., 14¾¢; 12@14 lbs. ave., 14¼¢; 14@16 lbs. ave., 14¢; 18@20 lbs. ave., 14¢. Sweet pickled, 8@10 lbs. ave., 15¼¢; 10@12 lbs. ave., 15½¢; 12@14 lbs. ave., 15¢; 14@16 lbs. ave., 14¾¢; 18@20 lbs. ave., 14¾¢.

Skinned Hams—Green, 14@16 lbs. ave., 14¾¢; 16@18 lbs. ave., 14¾¢; 18@20 lbs. ave., 14¾¢; 22@24 lbs. ave., 14¼¢. Sweet pickled, 14@16 lbs. ave., 15¼¢; 16@18 lbs. ave., 15¼¢; 18@20 lbs. ave., 15¼¢; 22@24 lbs. ave., 14¾¢.

New York Shoulders—Green, 10@12 lbs. ave., 11¼¢ nom. Sweet pickled, 10@12 lbs. ave., 11¼¢ nom.

Picnic Hams—Green, 5@6 lbs. ave., 11¼¢; 6@8 lbs. ave., 11¢; 8@10 lbs. ave., 10¾¢; 10@12 lbs. ave., 10¾¢. Sweet pickled, 5@6 lbs. ave., 11½¢; 6@8 lbs. ave., 11½¢; 8@10 lbs. ave., 11½¢; 10@12 lbs. ave., 11¢.

Clear Bellies—Green, 6@8 lbs. ave., 17¢; 8@10 lbs. ave., 16¼¢; 10@12 lbs. ave., 15½¢; 12@14 lbs. ave., 15¢; 14@16 lbs. ave., 14¾¢. Sweet pickled, 6@8 lbs. ave., 17¢; 8@10 lbs. ave., 16¼¢; 10@12 lbs. ave., 15½¢; 12@14 lbs. ave., 15¢; 14@16 lbs. ave., 14¾¢.

WESTERN FERTILIZER MARKET.

(Special Letter to The National Provisioner from The Davidson Commission Co.)

Chicago, September 16.—The situation in animal ammoniates continues about unchanged, with trade extremely quiet and buyers generally holding off, and excepting for one sale reported of a round lot of high-grade tankage at \$2.95 and 10¢ for prompt shipment, and which is generally presumed to have been bought for export, there has been practically nothing done for a week or more past. The larger packers are shipping their surplus production to their Southern plants rather than cut the price here in attempt to secure business in the present greatly disturbed situation in the South.

Blood is nominally \$3.12½@3.15, with no sales reported for some little time; high-grade tankage, \$2.95 and 10¢; 8@25 per cent. ground tankage and lower grades unchanged from our last quotation, with no business reported for some time past. Buyers and sellers all seem inclined to await developments as to the prospective Southern demand, which seems likely to be very greatly curtailed on account of the lack of demand for cotton and the possibility that next year's crop will be very largely reduced when the planting season arrives. (Complete quotations will be found on page 39.)

PORK CUTS IN NEW YORK.

(Special Report to The National Provisioner from H. C. Zaun.)

New York, September 17.—Wholesale prices in green and sweet pickled pork cuts in New York City are reported as follows: Pork loins, 21@22¢; green hams, 8@10 lbs. ave., 17¢; do., 10@12 lbs. ave., 16¾¢; do., 12@14 lbs. ave., 16¢; do., 18@20 lbs. ave., 15¢; green clear bellies, 6@10 lbs. ave., 17½¢; do., 10@12 lbs. ave., 16¾¢; do., 12@14 lbs. ave., 15¢; green rib bellies, 10@12 lbs. ave., 16½¢; do., 12@14 lbs. ave., 15¢; S. P. clear bellies, 6@10 lbs. ave., 17½¢; do., 10@12 lbs. ave., 16¾¢; do., 12@14 lbs. ave., 15¾¢; S. P. rib bellies, 10@12 lbs. ave., 16½¢; do., 18@20 lbs. ave., 16¢; S. P. hams, 8@10 lbs. ave., 17¢; do., 10@12 lbs. ave., 16½¢; do., 12@14 lbs. ave., 17¢.

Western prices are as follows: Pork loins, 8@10 lbs. ave., 20@21¢; do., 10@12 lbs. ave., 19@20¢; do., 12@14 lbs. ave., 18@19¢; do., 14@16 lbs. ave., 17@18¢; lean trimmings, 15¢; regular trimmings, 11¢; boneless butts, 18¢; Boston butts, 16¢; skinned shoulders, 14½¢; spareribs, 11¢; neck bones, 4¢; tails, 7¢; kidneys, 5¢; livers, 2½¢; plucks, 3½¢.

Tierce goods: S. P. ribs (half sheets), \$28@29; pig tongues, 12½¢; pig tails, \$23.

Green Olive Oil Foots

SUPERIOR QUALITY

AND ALL OTHER SOAP MATERIALS

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383 West St., New York

COTTONSEED OIL EXPORTS

Exports of cottonseed oil reported for the week ending September 17, 1914, and for the period since September 1, 1914, were as follows:

	Week ending Sept. 17, '14.	Since Sept. 1, '14.
From New York—	Bbls.	Bbls.
Barbados, W. I.	—	268
Bergen, Norway	625	625
Buenos Aires, A. R.	105	105
Colon, Panama	36	36
Copenhagen, Denmark	500	1,299
Cristobal, Panama	29	239
Demerara, British Guiana	—	11
Genoa, Italy	—	50
Havana, Cuba	—	151
Havre, France	200	200
Hull, England	125	225
Kingston, W. I.	59	113
Liverpool, England	1,100	1,150
London, England	1,800	3,800
Macoris, S. D.	42	42
Manzanillo, Cuba	81	81
Matanzas, W. I.	5	5
Montevideo, Uruguay	—	1,650
Nassau, Bahamas	110	110
Port au Prince, W. I.	—	2
Rio de Janeiro, Brazil	—	50
Rotterdam, Holland	3,950	4,149
San Juan, P. R.	—	1
Santiago, Cuba	—	132
Total	8,767	14,494
From New Orleans—		
Frontera, Mexico	—	10
Havana, Cuba	100	300
Progreso, Mexico	—	190
Total	100	500
From Norfolk—		
Liverpool, England	—	200
Total	—	200
From all other ports—		
Canada	—	109
Total	—	109
Recapitulation—	Week ending Sept. 17, Bbls.	Since Sept. 1, Bbls.
From New York	8,767	14,494
From New Orleans	100	500
From Norfolk	—	200
From all other ports	—	109
Total	8,867	15,303
		Same period 1913, Bbls.
		4,111
		935
		—
		623
Total	8,867	15,303

CHEMICALS AND SOAP SUPPLIES.

(Special Report to The National Provisioner.)

New York, September 17.—The market on chemicals and soap supplies is quoted as follows: 74@76 per cent. caustic soda, \$1.55@1.65 basis 60 per cent.; 60 per cent. caustic soda, \$1.75 per 100 lbs.; 98 per cent. powdered caustic soda in bbls., 2¼@2½c. per lb.; 58 per cent. soda ash, 80c. per 100 lbs. basis 48 per cent.; 48 per cent. carbonate of soda, 95c. per 100 lbs.; talc, 1¼@1½c. per lb.; silic, \$15@20 per ton of 2,000 lbs.; marble flour, \$8 per ton of 2,000 lbs.; chloride of lime in casks, 4½c. per lb. and bbls 5c. per lb.; carbonate of potash, 18c. per lb.; electrolytic caustic potash, 20@22c. per lb.

Prime palm oil in casks, 8@10c. per lb.; clarified palm oil in bbls., 11c. per lb.; genuine Lagos palm oil, 10c. per lb.; palm kernel oil, 12½@13c. per lb.; green olive oil, \$1 per gal.; yellow olive oil, \$1.15@1.25 per gal.; green olive oil foots, 11@12c. per lb.; Ceylon coconut oil, 13@14c. per lb.; Cochin coconut, 15@16c. per lb.; cottonseed oil, 6.75c. per lb.; Soya bean oil, 7¼@7½c. per lb.; prime city tallow at 6½c. per lb.; corn oil, 5.95@6.10c. per lb.

House grease, 5¼@6c. per lb.; brown grease, 5½c. per lb.; oleo stearine, 10½@11c. per lb.; yellow packer's grease, 5¼c. per lb.

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SOUTHERN MARKETS

Columbia.

(Special Wire to The National Provisioner.)

Columbia, S. C., September 17.—Crude cottonseed oil 35½c. bid for September, 36c. for October, November and December. Market very quiet the past few days.

Atlanta.

(Special Wire to The National Provisioner.)

Atlanta, Ga., September 17.—Crude cottonseed oil steady at 35@35c. Meal firm at \$21, f. o. b. mills. Hulls in fair demand at \$3.50, f. o. b. mills.

Memphis.

(Special Wire to The National Provisioner.)

Memphis, Tenn., September 17.—Prime crude cottonseed oil nominally 36@36½c. Prime 8 per cent. meal dull at \$23.50@24. Hulls, \$4.50@5, loose.

New Orleans.

(Special Wire to The National Provisioner.)

New Orleans, La., September 17.—Basis prime crude cottonseed oil barely steady at 35c. Eight per cent. prime meal higher at \$24, short ton. New Orleans; 7½ per cent. meal, \$23. Hulls weak at \$5.25 loose, \$7.50 sacked, here.

COTTONSEED OIL SITUATION.

(Special Letter to The National Provisioner from Aspegren & Co.)

New York, September 16, 1914.—As stated in our last week's review, if crude oil offerings were withdrawn the market would respond immediately. Offerings of crude oil during the early part of the week were light, and in short order the refined oil market scored advances of some 15 to 23 points. At the high levels crude oil again came out in heavy volume, and with the continued heavy tendering of September oil values again started to weaken, particularly for September oil, which on forced liquidation declined some

34 points from the early high levels, as against 19 to 23 points in the later deliveries. The past few days fluctuations of 5 to 10 points have come in quick succession, the market, however, closing for the week at very near the low levels.

Under present existing conditions opinions as to values do not seem to count for much. With holding tactics being discouraged by bankers, the crude mills are compelled to sell their oil just as fast as made, and prices cut no figure, and unless the "demand" is vigorous at the time these offerings of crude oil come out on the market prices shrink quickly. We can expect to see quick advances and declines depending on supply and demand, and guesses as to what will be the next move for the moment are absolutely futile.

	Closing Sept. 9.	High.	Low.	Closing Sept. 16.
September	5.52 b	5.85 a	6.05	5.71
October	5.96 b	5.98 a	6.13	5.90
November	5.90 b	5.92 a	6.11	5.90
December	5.95 b	5.97 a	6.13	5.92
January	6.05 b	6.06 a	6.21	6.00
March	6.16 b	6.18 a	6.40	6.21

FOOD INSPECTION IN SAVANNAH.

Dr. DeWitt C. Gilles, D. V. M., of Washington, D. C., recently on the laboratory staff of the United States Bureau of Animal Industry, has been appointed chief food inspector of the city of Savannah, Ga. The appointment was made after a competitive examination held in Savannah, Washington, Boston and Chicago. Dr. Gilles has recently assumed his new duties, in which he is assisted by a corps of inspectors. Inspection is to be extended to all classes of food products.

EXPORTS OF COTTONSEED OIL.

Exports of cottonseed oil from the United States for the month of August, according to government estimates, amounted to 13,075 bbls., compared to 13,616 bbls. a year ago. Exports for the eight months ending with August are estimated at 309,313 bbls., compared to 489,015 bbls. for a like period of 1913.

COTTONSEED OIL

WEEKLY REVIEW

THE NATIONAL PROVISIONER is official Organ of the Interstate Cottonseed Crushers' Association, the Texas Cottonseed Crushers' Association, South Carolina Cottonseed Crushers' Association, the Georgia Cottonseed Crushers' Association, and the Mississippi Cottonseed Crushers' Association.

Market Steadier—Consuming Trade Keeps Good—Crude Offerings Fair—Refiners Pay Better Prices—Speculation Still Limited.

The cottonseed oil market during the past week was said to be resting on an equitable supply and demand basis. By this it was not meant that crude mills were satisfied with the values, nor did it imply that farmers had at last become reconciled to low seed values. Neither was it believed that consumers had come to the conclusion that values were as low as could be expected. It was a fact, however, that mills at the South were able to sell fair amounts of crude oil at from 34½ @ 36½c., according to location, and that such offerings were well absorbed without resulting in a further depreciation in values, as had been the case recently when crude oil was advertised for sale.

Speculation played but a very minor role in the maintenance of quotations. Outside buying still lacks volume. Apart from the difficulty in financing trades, some operators who make a close study of conditions are indisposed to take to the buying side. The theory is that there will be enough oil liquidated from time to time by Southern interests to preclude any material upturn in cot-

ton oil values and with a big supply available, consumers would not stock up, even if the price alone was the consideration. There has, as a matter of fact, been a little bear pressure on the market at times, but this did not meet with a great deal of success, nor was it persistent.

The demand for cotton oil has, doubtless, been increased by the price notwithstanding claims by some authorities that stuff was being taken because it was urgently needed. For instance, soap makers have taken larger quantities again during the past week, and doubtless these parties would be disinterested unless they could be supplied with cotton oil at a cost under what some other products would have to be bought at. The European demand has also revived. It is the impression that the bulk of the sales take in northern European points. However, it is confidently predicted that there will be some fair-sized shipments to Mediterranean stations, and it is further declared that were the monetary situation normal, or were larger foreign credits established in the United States, the exports of cotton oil would show an additional expansion. As it is, the extraordinary foreign oil levels reflecting war conditions have already served to introduce cotton

oil into hitherto unfamiliar localities. There has been a reaction in the European oil prices, but the cost remains relatively high.

Advices from the South suggest that in some parts, particularly the central west, crude mills are slow in commencing to operate. While these dilatory openings might be somewhat more pronounced this season than usual, it is well known that the mills always start up gradually. It is fair to assume, therefore, that as the crushing season reaches its height, refiners and other distributors of cotton oil will be duly apprised of affairs, and more or less stocking up for the spring and summer trades should take place. With this line of reasoning, there are people in the oil trade not so certain of marked depressions in cotton oil prices at a later date, irrespective of the aggregate crude oil offerings.

Nothing has transpired to suggest that those who are calculating on 15,000,000 bales of seed cotton will have to change their opinions, and were it not for the irregularities in the seed situation, a very liberal, if not record, crush of oil would seem inevitable. Cotton values have scored nominal advances, but have not risen sufficiently to indicate that farmers will not curtail their acreage to a significant degree. Without a doubt,

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the northern extremities of the cotton region will be given over to grain in many cases. Thus, there will be less seed needed for cotton planting, but it remains to be seen what quantity will be given over to fertilizers, and what quantity to the mills for crushing purposes. A quick ending of the war, or even peace by the winter, would go a long way in solving the problem of the mills, as far as disposing of their by-products is concerned. With feed-stuffs high, oil cake and cottonseed meal would doubtless find a ready market, seed would become more expensive, and in all probability higher prices would be asked for cotton oil. Meanwhile, the holders of cotton and cottonseed are in a less helpless position, partly due to the commendable and popular buy-a-bale movement which promises to prevent cotton from being such a great drug on the market.

Closing prices, Saturday, September 12, 1914.—Spot, \$5.75@6; September, \$5.71@5.73; October, \$5.97@6.02; November, \$5.97@5.99; December, \$6@6.03; January, \$6.08@6.09; February, \$6.11@6.15; March, \$6.27@6.29; April, \$6.27@6.36. Futures closed at 9 to 25 decline. Sales were: September, 1,000, \$6@5.71; October, 200, \$5.99; November, 500, \$6.04@6.02; December, 1,000, \$6.12@6.08; January, 100, \$6.12; March, 2,200, \$6.35@6.29. Total sales, 5,000 bbls. Good off, \$5.60@5.75; off, \$5.60@5.75; reddish off, \$5.40@5.75; winter, \$6.25; summer, \$6.25; prime crude, S. E., \$4.80@4.87.

Closing prices, Monday, September 14, 1914.—Spot, \$5.75@5.83; September, \$5.80@5.82; October, \$5.89@5.91; November, \$5.89@5.91; December, \$5.91@5.92; January, \$6@6.01; February, \$6.05@6.08; March, \$6.20@6.22; April, \$6.24@6.30. Futures closed at September 9 up others 3 to 9 decline. Sales were: September, 500, \$5.80; October, 600, \$5.95@5.90; November, 2,000, \$5.94@5.90; December, 2,000, \$5.95@5.94; January, 4,100, \$6.05@6; March, 3,300, \$6.25@6.21. Total sales, 12,500 bbls. Good off, \$5.72@5.83; off, \$5.70@5.83; reddish off, \$5.25@5.80; winter, \$6@6; summer, \$6@6; prime crude, S. E., \$4.73.

Closing prices, Tuesday, September 15, 1914.—Spot, \$5.80@5.90; September, \$5.88@5.89; October, \$5.92@5.94; November, \$5.93@5.94; December, \$6.05@5.96; January, \$6.06@6.07; February, \$6.11@6.15; March, \$6.25@6.26; April, \$6.26@6.25. Futures closed at 2 to 8 advance. Sales were: September, 1,400, \$5.90@5.80; October, 2,900, \$5.94@5.90; November, 1,900, \$5.95@5.90; December, 800, \$5.95@5.94; January, 2,800, \$6.06@6.03; March, 700, \$6.25@6.21. Total sales, 10,500 bbls. Good off, \$5.75; off, \$5.78@5.90; reddish off, \$5.65@5.88; winter, \$6@6; summer, \$6@6; prime crude, S. E., 4.73.

Closing prices, Wednesday, September 16, 1914.—Spot, \$5.81@5.90; September, \$5.80@5.83; October, \$5.91@5.92; November, \$5.91@5.93; December, \$5.94@5.96; January, \$6.07@6.08; February, \$6.13@6.15; March, \$6.26@6.27; April, \$6.26@6.35. Futures closed at 8 decline to 2 advance. Sales were: September, 400, \$5.85@5.81; October, 1,100, \$5.90@5.92; November, 1,900, \$6.01@5.92; December, 1,400, \$5.96@5.95; January, 4,600, \$6.16@6.06; March, 2,300, \$6.36@6.26. Total sales, 11,700 bbls. Good off, \$5.79@5.82; off, \$5.50@5.82; reddish off, \$5.60@5.82; winter, \$6.50@6; summer, \$6@6; prime crude, S. E., \$4.73@4.80; prime crude, Valley, nom.; prime crude, Texas, nom.

Closing prices, Thursday, September 17, 1914.—Spot, \$5.81@6; September, \$5.81@5.88; October, \$5.92@5.95; November, \$5.92@5.96; December, \$5.96@5.98; January, \$6.08@6.10; February, \$6.14@6.18; March, \$6.27@6.29; April, \$6.30@6.40. Futures closed 1 to 4 advance. Sales were: September, 100, \$5.78; October, 500, \$5.91; December, 600, \$5.96@5.95; January, 600, \$6.09@6.06; March, 2,100, \$6.28@6.26. Total sales, 3,900 bbls. Good off, \$5.78@5.90; off, \$5.70@5.90; reddish off, \$5.60@5.90; winter, \$6.50@6; summer, \$6.25@7.50; prime crude, S. E., \$4.80; prime crude, Valley, nom.; prime crude, Texas, nom.

SEE PAGE 29 FOR FRIDAY'S MARKETS.

COTTONSEED PRODUCTS IN NORTHERN EUROPE

Possibilities of Increasing Our Trade in Those Countries

By Erwin W. Thompson, Commercial Agent U. S. Bureau of Foreign and Domestic Commerce

(EDITOR'S NOTE.—This is the twelfth installment of a report by Commercial Agent Erwin W. Thompson to the Bureau of Foreign & Domestic Commerce on the trade conditions affecting cottonseed products and their competitors in Northern Europe. Mr. Thompson, who is a recognized trade authority, both technically and commercially, has just returned from a year's study of European trade conditions. His report will be of almost as much interest to meat producers and the meat trade as to the cottonseed products industry.)

ENGLAND (Concluded).

In the absence of any international agreement on the details of theoretical valuation of feeds, each country formulates and in some degree follows its own system, which often seems to be based on, or at least influenced by, domestic economic conditions. Actual market prices for feedstuffs are not always in accord with any theory of nutrition. They are governed by combinations of conditions relating to world supply, prevailing freight rates, and to individual and even national idiosyncracies.

But it is of the greatest benefit to any individual feeder to have a knowledge of the basic principles of nutrition; for that enables him to disassociate himself from any local or national prejudice for or against any particular feed, and to reach a position where he is willing to select a feed strictly on the basis of its nutritive qualities. If this happens at any time to point toward some feed not generally known or liked in the community, he may by purchasing this feed be obtaining his actual nutrition at the lowest price.

Theoretical Valuation of Feedstuffs.

British authorities on feeding accept in general terms the Kellner (German) theories of comparative nutrition. But in England they very properly carry the matter further and say that for determining actual commercial ratios as a helpful guide for judging relative values of feeds in the market, it is necessary to take into account the differing values of the manures voided as a result of feeding this or that element; that notably the most nitrogenous feeds result in the most valuable manures, and hence to reckon the whole commercial effect of the protein in a feed at the same relative value as the carbohydrates is measurably incorrect.

As a matter of fact, Kellner took pains to explain that his units were merely a measure of nutritive value, and not necessarily of the money value of the feed, which must depend upon varying commercial conditions. But he did not make it clear that the manurial factor was the principal source of difference between the two concepts.

Thus the rank and file of German feeders, while realizing in a practical sort of way the differences in the manurial results of feeds, have not been taught this in a mathematical way, and the great majority try to reckon market values on Kellner's nutrition ratios. Commercial conditions, however, have always forced them to pay higher than theoretical parities for nitrogenous feeds. Dr. Theodore Pfeifer has recently made a clear statement of this matter in *Fühlings Landwirtschaftliche Zeitung* of Stuttgart, Germany, November 1, 1913, showing a table of differences due to manurial values. Publications of this kind should have the effect of maintaining the proper prices for oil meals, as compared with potatoes and other starchy feeds.

England is indebted to Hall and Voelcker, of Leeds University, for tables exhibiting manurial values of certain kinds of feeds. Of course the final value of farmyard manure must depend upon methods of conservation and application, but these experimenters have concluded that a practical rule is to consider as saved in the manure voided half the nitrogen (which they have valued at 13 cents per pound), three-quarters of the phosphoric acid (valued at 3.3 cents), and all the potash (valued at 4.3 cents).

The following table shows the value of manure produced by cattle while consuming 2,000 pounds of certain feeds, according to Hall and Voelcker (the German feed units are according to Kellner):

Feed.	Analysis.				Value of manure.	German feed units.
	Protein.	Nitrogen-free fat extract.	Crude fiber.	Crude ure.		
Cottonseed cake:	%	%	%	%		
Decorticated	43	10	24	9	\$11.91	72
Undecorticated	22	5.5	33	25	7.29	39
Linseed cake	30	10	35	9	8.90	74
Rice bran	12	12	50	8	4.51	72
Barley	10	2	67	4	3.00	72
Oats	11	5	57	10	3.00	60
Maize	10.5	5	70	2	2.86	62
Beans	25	1.5	48	7	6.92	87

If this table could be generally disseminated and explained among feeders it would finally result in placing decorticated cake on a higher relative basis than it now is in England. Suppose decorticated cottonseed cake is sold at \$35.85 per short ton. If the manurial value is deducted (\$11.91), \$23.94 remains as the net cost of the feed. Dividing this by 72 German units, the feed cost per unit is 33.2 cents. At this rate the 39 units in undecorticated cake would be worth \$12.95, which added to its manurial value (\$7.29) would bring up the total comparative market worth to \$20.24, which is \$2.34 less

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than the quoted price, and means that this is the amount per ton the feeder loses by not using decorticated. Conversely, if undecorticated is properly priced, decorticated is quoted very much too low.

This condition is in some degree brought about by the use of another and simpler system of valuations—the one in general practical use. It has apparently been assumed that while the foregoing comprehensive system might be necessary for valuing widely differing classes of feed, some more simple system could be used for the comparatively small range of feeds that the farmer actually has to buy.

Accordingly, the following empirical rule has been very generally adopted: Add the percentage of crude protein and fat, multiply this sum by $2\frac{1}{2}$, and add to the percentage of nitrogen-free extract. This sum is the feed unit. It was the original purpose that this rule be worked, not with the chemical analyses, but with the digestible contents. Multiplying the digestible fat by $2\frac{1}{2}$ is near enough the mark. Multiplying the digestible protein by $2\frac{1}{2}$ (whose feed value is unity) makes a tolerable allowance for its manurial value.

The trouble is that in practice this rule is being worked with the entire chemical contents, leaving completely out of account all factors of digestibility, and the result is not even approximately correct, except within very narrow limits of similar substances, such as high-grade oil cakes. But undecorticated cottonseed cake, though by origin an oil cake, is on account of its large hull content chemically and physically in a very different class. This is shown by the following from Kellner's tables of digestibility:

Oil cakes.	Percentage of digestibility.			
	Protein.	Fat.	Nitrogen-free extract.	Total organic matter.
Soya	90	88	94	90
Sesame	92	94	71	87
Peanut	90	90	84	83
Copra	78	97	83	80
Linseed	86	92	78	79
Decorticated cottonseed	86	94	67	76
Sunflower	92	90	71	74
Palm kernel	76	89	88	73
Rapeseed	81	79	76	66
Undecorticated cottonseed	73	91	61	62

When the ultimate feeder learns to modify his conception of the national feed unit to embrace the factors of digestibility, American decorticated cottonseed cake and meal will attain their proper standing as a direct feed.

THE NETHERLANDS.

The imports of American cake and meal into the Netherlands are declining. Eight per cent. of the American exports of cottonseed meal and cake was taken in 1910, but only 4 per cent. in 1913. American linseed cake,

however, is imported to the extent of 100,000 to 150,000 tons, or 40 to 45 per cent. of the exports from the United States.

Of the 457,646 tons of cake oil fed in the Netherlands in 1912, only 2.3 per cent. was cottonseed, while 71 per cent. was linseed. The following list of feeding stuffs, purchased in 1912 under supervision of the experiment stations for such dairymen as desired it, will show the general trend of the preference: Linseed cake, 32,738 tons; soya cake, 5,191; mill by-products, 4,041; rapeseed cake, 2,394; cottonseed cake, 2,050; peanut cake, 1,318; sundry feeds, 4,955.

There seems little prospect of developing a taste for anything but linseed cake, as linseed crushing has been in vogue for several centuries and the cattle industry has grown and prospered in a wonderful degree. There has also been a steady gain in agricultural yields, quite easily attributable in some measure to the nitrogenous feeds given the cattle. The oil-cake consumption averages about 500 pounds per head of cattle, which is larger than for any other country in the world. The number of cattle (160 per square mile) contributes to the manurial effect.

While in most other countries the number of cattle is rapidly diminishing, the number in the Netherlands is increasing, notwithstanding that the annual export of cattle, beef, butter and cheese totals over \$30,000,000 net. In 1900 the population of the country was 5,200,000, and the cattle numbered 1,650,000. In 1912 the population was 6,100,000, and there were 2,000,000 cattle, the population having increased 17 per cent. and the cattle 21 per cent.

In a recent table published by Prof. Kennedy, of the Iowa State College, the population of the United States is shown to have increased 24 per cent. in the last decade, while the cattle decreased 30 per cent. It would seem from the experience of the Netherlands that an oil-cake diet might help to check this loss. If the United States fed the Netherlands quota of a quarter of a ton of oil cake to each of its 50,000,000 cattle, there would be need of 12,500,000 tons, which is three or four times our present output of all kinds.

Promoting Cottonseed Cake.

Any effort to introduce cottonseed cake, or

any other sort except linseed, into the Netherlands would be met with instinctive opposition. The question of price seems to have little to do with it. Until 1913, with its large linseed crop, decorticated cottonseed cake was pretty generally \$3 per ton cheaper than linseed cake, without making any impression on the universal Dutch preference for the latter.

Linseed cake has been cheaper than usual during 1913-14, and cottonseed cake higher. The following is from a wholesale price list published in Rotterdam, January, 1914: Cottonseed cake (Texas 55 per cent.), \$39 per short ton; linseed cake, American, \$31 to \$31.75; linseed cake, Russian, \$29.90 to \$31.75; colza and rape, European seed, \$26.25; colza and rape, Cawnpore, \$21.90; colza and rape, Danube, \$25.15; colza and rape, La Plata, \$22; peanut, \$35.20 to \$36.10.

In 1911-12, when soya beans began to come into prominence as a cheap raw material for Dutch oil mills, it seemed for a time that native pressed soya cake would acquire some standing, but this has not happened, and the domestic crush of soya beans has declined with their advance in price, though bean trading in and out of Dutch ports still has some importance. The recent movements of soya beans is as follows in metric tons: Imports—in 1911, 26,419 tons; in 1912, 43,054 tons; in 1913, 27,554 tons; exports—in 1911, 11,995 tons; in 1912, 16,545 tons; in 1913, 13,948 tons.

Peanut cakes are generally quoted at the same price as decorticated cottonseed cake, and meet with about as little favor, notwithstanding a considerable and increasing domestic crush. More than half the manufactured cake is exported, chiefly to Germany. The following figures show the recent movement of peanuts in metric tons: Imports—in 1911, 47,582 tons; in 1912, 52,179 tons; in 1913, 67,431 tons; exports—in 1911, 12,762 tons; in 1912, 12,794 tons; in 1913, 19,133 tons.

Most of the peanuts are of the Rufisque variety from the west coast of Africa. These arrive in the shell and make the very finest quality of oil and cake. Most of them are crushed at Delft, where there is a modern mill operated to produce the best results in oil without regard to local opinion as to size and shape of cakes. This fact may have some

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bearing on the lack of interest in peanut cakes.

The following table shows the imports, exports and production of seeds, oils and cakes for the Netherlands in 1912, in metric tons:

Seed:	Imports. Met. tons.	Exports. Met. tons.	Production. Met. tons.
Cottonseed			
Linseed	208,929	90,275	8,000
Colza and rape	43,049	13,528	1,000
Soya	43,054	16,545	
Peanut	52,179	12,794	
Palm kernels	56,883	48,439	
Copra	102,230	78,350	
Miscellaneous	88,077	65,384	1,000
Total	594,381	295,315	10,000
Oil:			
Cottonseed	23,978	136	
Linseed	155	35,015	46,906
Colza and rape	265	677	0,156
Soya	4,631		4,241
Peanut	1,080	10,088	12,603
Palm kernels			3,538
Copra	20,028		14,328
Miscellaneous	30,784	758	7,108
Total	80,921	46,674	97,970
Cake:			
Cottonseed	35,650	25,240	
Linseed	291,099	44,363	108,000
Colza and rape	7,629	10,913	21,000
Soya	2,439		22,000
Peanut		9,529	17,000
Palm kernel			4,700
Copra		5,000	9,400
Miscellaneous	64,383	18,407	15,800
Total	373,200	113,454	197,900

(To be continued.)

ANALYZING COTTONSEED PRODUCTS

The Chemists' Committee of the Inter-State Cotton Seed Crushers' Association has recently amended the official methods of analysis of cottonseed products to include the following additions and changes:

MOISTURE.—Dry two to five grams for three hours in an oven at 100° C., using the officially adopted aluminum dish with cover which is placed on the dish as soon as it is removed from the oven. Place in a desiccator, allow to cool to room temperature and weigh. The loss in weight is moisture. The official dish can be obtained from American Can Company, Atlanta, Ga.

MOISTURE IN CAKE AND MEAL.—It was proposed that moisture test should be made and reported on all samples of cake and meal for the purpose of comparison.

OIL.—Extract two to five grams of the sample for three hours in the short siphon soxhlet apparatus, using petroleic ether boiling below 60 degrees as the solvent. Evaporate off the ether until no trace remains and weigh as oil.

Nitrogen—Ammonia—Protein.

(a) Digest 1.7034 grams of the sample with approximately 0.5 gram metallic mercury or 0.7 gram of mercuric oxide, 10 grams of sodium or potassium sulphate, and 25 cc. of sulphuric acid (Sp. Gr. 1.84). Place flask in an inclined position and heat below the boiling point of the acid for from five to fifteen minutes or until frothing has ceased. Increase the temperature and continue digestion until the liquid becomes colorless or nearly so. The process is the same from now on as in the regular Kjeldahl method, except that no potassium permanganate is added.

(b) Distillation.—After cooling, add about 200 cc. of distilled water, a few pieces of zinc to keep the contents of the flask from bumping, and 25 cc. of a 4% solution of potassium sulphide of a sufficient amount to precipitate all the mercury. After thoroughly mixing add 60 cc. of a caustic soda solution of 1.50 specific gravity, or sufficient to make the reaction strongly alkaline, pouring it down the side of the flask so that it does not mix at once with the acid solution. Connect the flask with a condenser of block tin, mix the contents of the flask by shaking and distill into an accurately measured quantity of standard acid solution (N/2 sulphuric recommended) to which has been added 50 cc. of distilled water, until all ammonia has passed over, taking care that the delivery tube reaches below the level of the standard acid. The distillate is then titrated with standard alkalis (N/4 sodium hydroxide recommended.)

Ammonia X 5.14 = Protein.

Nitrogen X 6.25 = Protein.

Ammonia X 1.832 = Nitrogen.

FAT.—Whenever cottonseed meal is sold as a feedstuff, the sample must be analyzed for fat according to the official methods of the Association of Official Agricultural Chemists.

TOTAL FATTY ACIDS.—Weigh out from weighing bottle 8 to 10 grams of well mixed sample of soap stock or 4 to 5 grams of black grease into a 400 cc. beaker. Saponify with an alcoholic solution of sodium or potassium hydroxide. Heat in steam bath with stirring until all alcohol is driven off. Add 200 to 250 cc. of distilled water and heat until complete solution of the soap is effected. Acidify with dilute hydrochloric acid (1:1) avoiding too large an excess. Cover with watch glass and continue heating until fatty acid layer is clear. Cool and filter off the liquid from the cake of fatty acids, washing with cold water to remove traces of acid. Allow the fatty acids to dry, most conveniently over night. Dissolve the dried fatty acids in 125 cc. of warm petroleic ether boiling at 65 degrees C. and filter through a dry filter paper into a tared soxhlet flask. Wash the filter thoroughly with warm petroleic ether or transfer to a soxhlet tube and extract with petroleic ether. Evaporate off petroleic ether and heat in oven at 100 degrees C. to constant weight. Calculate percentage on original weight taken.

MOISTURE AND MEAL IN CRUDE COTTONSEED OIL.—Weigh into tared porcelain or metal dish 10 grams of the well mixed sample and heat over direct flame until the oil just smokes. Cool, and loss in weight is reported as moisture. Add petroleic ether and transfer to a tared Gooch crucible and wash with petroleic ether free from oil. Dry to constant weight and report as meal, etc.

FREE FATTY ACIDS IN CRUDE COTTONSEED OIL.—In a 4 oz. sample oil bottle place about 50 cc. of a neutral 20 degree Be. solution of pure crystalline salt, using 1 cc. phenolphthalein solution as indicator. Pipette (using standard pipette which can be obtained from Mr. G. C. Hulbert, Secretary, Augusta, Ga.) 7.05 grams of the oil. Titrate with N/4 caustic soda solution, shaking violently to a permanent pink.

LABORATORY REFINING TEST FOR PRIME CRUDE COTTONSEED OIL.—Apparatus:

Scales, 1,000 gram capacity, sensitive to one-half gram.

Weights, 500 grams to one-half gram.

Seamless or enameled iron cups, about 4½ inches diameter and 4 inches deep.

A mechanical stirrer, the speed of which may be controlled.

Water bath with thermometer, suitably arranged to hold cups used in the test.

Reagents.

Caustic soda made up in solutions of 10, 12, 14, 16, 18 and 20 degrees Baume at 15 degrees, made from a saturated solution of 77½% (Na₂O) caustic soda. The quantity of caustic soda to be used in refining prime oil must not exceed 1.097 per cent of NaOH. The table below gives the corresponding quantities of the different strengths which can be used:

Degrees Baume	NaOH Contents	Amounts
10	6.55%	16.8%
12	8.00%	13.7%
14	9.42%	11.6%
16	10.97%	10.0%
18	12.62%	8.7%
20	14.37%	7.6%

No oil shall be rejected unless tested with three or more caustic soda solution of the strengths given above, nor shall any claim for excessive refining loss be established if it can be proven that the color can be made with smaller loss than that produced with the maximum amount of caustic soda allowed, nor shall any claim for deficiency in color be established if it can be proven that the color can be obtained without exceeding 9% refining loss with the maximum amount of caustic soda allowed.

PROCESS.—The dish in which the test is made is carefully tared, not less than 500 grams of the crude oil weighed in and heated or cooled to 24 degrees to 27 degrees. The proper amount of caustic soda of the desired strength is added and the mixture stirred for

five minutes. Heat is then applied and the temperature raised slowly, with constant stirring, to 43 degrees. The time from the addition of the caustic soda to the temperature of 43 degrees must be at least fifteen minutes, but there is no objection to taking longer than this. Continue the stirring until there is a complete separation of the oil from the soap stock. If this does not occur at 43 degrees the heating may be continued until the temperature reaches 52 degrees C. Place in a water bath at 43 degrees for three hours. Allow to stand over night or cool thoroughly so that the soap stock will become hard and firm. The weight is then taken to determine the loss in evaporation. The oil is decanted into clean vessel (tared) and the soap stock drained off the oil for 20 minutes and both oil and soap stock weighed as a check.

The soap stock is then melted on the steam bath and correction made for any oil recovered.

REFINING LOSS.—Weight of crude oil, less weight of refined oil, equals refining loss.

Weight of soap stock, less weight of caustic soda solution used plus the loss in evaporation equals refining loss.

The two should check within one-fourth of one per cent.

LABORATORY REFINING TEST FOR OFF CRUDE COTTONSEED OIL.—Reagents—Same as for prime oil with additional caustic soda solutions of 22 deg. and 24 de. Baume.

CAUSTIC SODA TABLE.—Oils containing free fatty acids between 3% and 5%, use weight of caustic soda necessary to neutralize plus .6716% NaOH.

Between 5% and 7.5% free fatty acids, use weight of caustic soda necessary to neutralize plus .7500% NaOH.

Between 7.5% and 10% free fatty acids, use weight of caustic soda necessary to neutralize plus .8750% NaOH.

Between 10% and 12.50% free fatty acids, use weight of caustic soda necessary to neutralize plus 1.0% NaOH.

Between 12.5% and 15% free fatty acids, use weight of caustic soda necessary to neutralize plus 1.125% NaOH.

Between 15% and 17.5% free fatty acids, use weight of caustic soda necessary to neutralize plus 1.25% NaOH.

Between 17.5% and 20% free fatty acids, use weight of caustic soda necessary to neutralize plus 1.375% NaOH.

The above table indicates the maximum amount of caustic soda that can be used for the percentage of free fatty acids as determined.

Any oil with less than 3% free fatty acid may be refined with any amount of caustic soda solution up to a caustic soda contents of 1.097 grams.

PROCESS.—The details are the same as the process for prime oils with the following exceptions. The free fatty acid is to be determined as per the official method and from the caustic soda table the maximum amount of solution allowed is obtained.

The oil to be brought to 24-27 degrees C. and caustic soda added. At this temperature stir for about fifteen minutes. The temperature is raised slowly, with constant stirring for at least fifteen minutes to 60 degrees C. Continue the stirring until there is a complete separation of the oil from the soap stock. If this does not occur at 60 degrees C. the temperature may be raised to a maximum of 65 degrees C.

Three refinings shall be made using different strengths of caustic soda solutions, provided the maximum amount of caustic soda allowed in the table is not exceeded, and that one of the tests be made with this maximum oil.

BLEACHING REFINED COTTONSEED OIL.—Take 300 grams of refined cottonseed oil and heat to 120 degrees C. and at this temperature add 6% standard English fullers Earth, which may be obtained from Mr. Robert Hulme, Phoenix Cotton Oil Company, Memphis, Tenn. Agitate thoroughly for five minutes, and filter, allowing sufficient to run through for the oil to become clear before collecting sample for reading. Read five and a quarter inches of oil (5¼ inches) at 21 degrees C.

THE WEEK'S CLOSING MARKETS

FRIDAY'S GENERAL MARKETS.

Lard in New York.

New York, September 18.—Market dull. Western steam, \$9.75; Middle West, \$9.75@9.85; city steam, 9% @ 9 3/4 c. nom.; refined Continent, \$10.70; South American, \$11.35; Brazil, kegs, \$12.35; compound, 8 1/2 @ 8 3/4 c. nom.

Marseilles Oils.

Marseilles, September 18.—Copra fabrique, 95 fr.; peanut fabrique, 75 fr.; edible, —.

Liverpool Produce Market.

Liverpool, September 18.—(By Cable).—Beef, extra India mess, —; pork, prime mess, —; shoulders, square, 74s.; New York, 72s.; picnic, 60s.; hams, long, 77s.; American cut, 77s. Bacon, Cumberland cut, 80s.; long clear, 82s.; short backs, 73s.; bellies, clear, 80s. Lard, spot prime, 51s. American refined contract, 51s. 4 1/2 d.; 28-lb. boxes, 52s. 3d. Lard (Hamburg), nominal. Tallow, prime city, 31s. 6d.; choice, 33s. 6d. Cheese, Canadian finest white, new, 72s. Tallow, Australian (at London), 30s. 9d. @ 33s.

FRIDAY'S CLOSINGS.

Provisions.

The market was again very quiet, with prices showing a steady tone with hogs.

Stearine.

The market continues very quiet with light trade. Oleo is quoted at 10 1/2 c.

Tallow.

Prices are steady but demand slow. City is quoted at 6 1/2 c. and specials at 7c.

Cottonseed Oil.

The market was dull with moderate selling pressure and a somewhat better tone.

Market closed 1 to 5 points advance. Sales, 3,700 bbls. Spot oil, \$5.84 @ 6. Crude, South-east, \$4.80 @ 4.87. Closing quotations on futures: September, \$5.85 @ 6; October, \$5.97 @ 5.98; November, \$5.97 @ 6.02; December, \$6 @ 6.03; January, \$6.11 @ 6.13; February, \$6.15 @ 6.20; March, \$6.29 @ 6.32; April, \$6.34 @ 6.40; good off oil, \$5.83 @ 6; off oil, \$5.75 @ 6; red off oil, \$5.65 @ 6; winter oil, \$7 bid; summer white oil, \$6.25 bid.

FRIDAY'S LIVESTOCK MARKETS.

Chicago, September 18.—Hog market slow and 5c. lower. Bulk of prices, \$8.45 @ 9.05; mixed, \$8.35 @ 9.50; heavy, \$8.10 @ 9.25; rough heavy, \$8.10 @ 8.25; Yorkers, \$9.40 @ 9.45; pigs, \$5 @ 9; cattle, slow and weak; beefs, \$6.90 @ 11; cows and heifers, \$3.70 @ 9.30; Texas steers, \$6.35 @ 7.50; stockers and feeders, \$5.50 @ 8.35; Western, \$6.75 @ 9.25. Sheep market slow, 10 @ 15c. lower; native, \$5.30 @ 6.10; Western, \$5.60 @ 6.05; yearling, \$6.20 @ 7.15; lambs, \$7.25 @ 8.80; Western, \$7.25 @ 8.75.

Sioux City, September 18.—Hogs steady, at \$8.30 @ 8.60.

Buffalo, September 18.—Hogs slow; on sale, 4.00 @, at \$9.65 @ 9.90.

Kansas City, September 18.—Hogs higher, at \$8.45 @ 9.05.

South Omaha, September 18.—Hogs weak, at \$8.20 @ 8.60.

St. Joseph, September 18.—Hogs slow, at \$8.50 @ 8.75.

Louisville, September 18.—Hogs higher, at \$9.15 @ 9.30.

Indianapolis, September 18.—Hogs lower, at \$9.25 @ 9.50.

RECEIPTS AT CENTERS

SATURDAY, SEPTEMBER 12, 1914.

	Cattle.	Hogs.	Sheep.
Chicago	530	9,000	7,000
Kansas City	900	500	
Omaha	100	3,000	1,200
St. Louis	800	8,000	
St. Joseph	100	3,000	
Sioux City	100	2,000	1,200
St. Paul	1,700	3,000	4,400
Oklahoma City		300	
Fort Worth	500	600	200
Milwaukee		1,116	
Denver	300	100	
Louisville	50		
Cudahy		300	
Wichita		1,018	
Indianapolis	250	3,000	
Pittsburgh		1,500	1,000
Cincinnati	100	1,433	600
Buffalo	350	2,000	600
Cleveland	40	1,000	400
New York	538	1,464	2,916

MONDAY, SEPTEMBER 14, 1914.

Chicago	23,000	29,000	23,000
Kansas City	28,000	5,000	
Omaha	11,500	1,000	26,500
St. Louis	11,400	8,400	1,900
St. Joseph	1,300	5,400	8,500
Sioux City	3,500	1,000	6,700
St. Paul	4,300	2,000	5,100
Oklahoma City	700	700	
Fort Worth	3,200	1,300	800
Milwaukee		723	
Denver	4,000	600	1,500
Louisville	3,150	5,000	1,024
Detroit		125	
Cudahy		500	
Wichita		150	
Indianapolis	650	3,000	
Pittsburgh	3,100	6,000	8,000
Cincinnati	3,400	3,896	1,400
Buffalo	4,500	13,000	8,400
Cleveland	60	2,000	600
New York	3,441	6,008	13,844

TUESDAY, SEPTEMBER 15, 1914.

Chicago	7,500	11,000	18,000
Kansas City	21,000	10,000	13,000
Omaha	8,000	3,400	30,000
St. Louis	7,100	10,500	1,700
St. Joseph	3,000	4,000	8,000
Sioux City	2,000	3,000	
St. Paul	1,700	3,000	7,500
Oklahoma City	1,300	3,500	
Fort Worth	4,500	2,000	100
Milwaukee	300	1,483	400
Denver	1,900	1,200	300
Louisville	1,500	1,000	251
Cudahy		1,500	
Wichita		2,036	
Indianapolis	1,200	5,000	
Pittsburgh		1,800	1,000
Cincinnati	200	3,155	800
Buffalo	100	1,600	1,000
Cleveland	40	1,000	400
Roston	3,086	13,800	10,708
New York	1,102	4,291	2,938

WEDNESDAY, SEPTEMBER 16, 1914.

Chicago	17,000	18,000	30,000
Kansas City	11,000	8,000	12,000
Omaha	6,800	3,200	16,000
St. Louis	5,000	8,500	2,000
St. Joseph	1,400	3,800	2,800
Sioux City	1,500	2,000	400
St. Paul	1,900	2,000	600
Oklahoma City	1,200	2,500	
Fort Worth	5,400		800
Milwaukee		3,339	
Denver	1,100	200	600
Louisville	100	1,390	117
Detroit		1,600	
Cudahy		300	
Wichita		1,433	
Indianapolis	1,300	6,000	
Pittsburgh		1,500	1,000
Cincinnati	900	2,436	1,400
Buffalo	125	1,000	1,000
Cleveland	120	2,000	1,200
New York	2,285	3,847	8,670

THURSDAY, SEPTEMBER 17, 1914.

Chicago	3,500	14,000	16,000
Kansas City	5,000	5,000	5,000
Omaha	4,000	3,000	12,500
St. Louis	7,000	8,000	2,200
St. Joseph	1,100	4,100	3,800
Sioux City	600	2,600	100
St. Paul		1,000	
Oklahoma City	700	1,200	
Fort Worth	3,200	2,500	100
Milwaukee		597	
Louisville		2,300	160
Detroit		4,501	
Cudahy		400	
Wichita		2,131	
Indianapolis		5,000	
Cincinnati	1,500	2,538	1,500
Buffalo	400	2,000	1,000
Cleveland		1,000	
New York	1,618	755	4,396

FRIDAY, SEPTEMBER 18, 1914.

Chicago	2,000	13,000	15,000
Kansas City	1,500	3,000	6,000
Omaha	1,000	2,000	16,500
St. Louis	2,800	7,000	7,700
St. Joseph	600	2,200	3,600
Sioux City	400	1,900	200
Fort Worth	2,800	400	200
Oklahoma City	100	3,000	300

PACKERS' PURCHASES

Purchases of livestock by packers at principal centers for the week ending Saturday, September 12, 1914, are reported as follows:

Chicago.*

	Cattle.	Hogs.	Sheep.
S. & S. Co.	3,739	4,500	11,000
Armour & Co.	5,267	10,500	21,401
Swift & Co.	3,375	5,300	32,364
Morris & Co.	3,843	3,600	9,882
G. H. Hammond Co.	1,580	3,100	
Libby, McNeill & Libby	2,094		

Total (complete) 25,102 52,375 91,283

Western Packing & Provision Co., 5,900 hogs; Anglo-American Provision Co., 3,200 hogs; Independent Packing Co., 3,300 hogs; Boyd, Lunham & Co., 2,900 hogs; Roberts & Oake, 1,900 hogs; Brennan Packing Co., 3,000 hogs; Miller & Hart, 3,500 hogs; others, 5,500 hogs.

Kansas City.

	Cattle.	Hogs.	Sheep.
Armour & Co.	4,540	5,600	6,782
Fowler Packing Co.	742	6	2,689
S. & S. Co.	3,315	2,749	7,106
Swift & Co.	5,461	3,606	10,798
Cudahy Packing Co.	3,736	3,404	2,342
Morris & Co.	4,331	3,286	5,028
Blount	871	665	214
Independent Packing Co.	836		295
M. Rice	340		197
Schwartz, Bolen & Co.	97	1,128	
Butchers	287	153	27

B. Balling, 122 cattle; Calahan, 76 cattle; S. Kraus, 504 cattle; L. Levy, 44 cattle; I. Meyer, 891 cattle; John Morrell & Co., 442 cattle; St. Louis Dressed Beef Co., 42 cattle; United Dressed Beef Co., 125 cattle; Wolf Packing Co., 46 cattle.

Omaha.

	Cattle.	Hogs.	Sheep.
Morris & Co.	1,665	2,750	8,797
Swift & Co.	2,434	3,871	17,676
Cudahy Packing Co.	3,088	4,550	12,181
Armour & Co.	2,719	4,648	17,769
Swartz & Co.	1	640	
J. W. Murphy		1,731	
Others	12,326		59,210

Lincoln Packing Co., 75 cattle; John Morrell & Co., 29 cattle; South Omaha Packing Co., 31 cattle; T. M. Sinclair & Co., 15 cattle; O. K. Serum Co., 4 hogs; Kohrs Packing Co., 219 hogs.

St. Louis.

	Cattle.	Hogs.	Sheep.
Morris & Co.	3,451	4,451	2,507
Swift & Co.	5,423	3,515	2,002
Armour & Co.	5,413	4,603	2,712
St. Louis Dressed Beef Co.	642		
East Side Packing Co.	210	1,522	
Independent Packing Co.	1,241		
J. H. Belz Provision Co.	23	1,247	
Hell Packing Co.	6	1,237	
Krey Packing Co.	75	1,318	
Carondelet Packing Co.	89	276	
Sartorius Provision Co.		402	
Luer Bros. Packing Co.		122	

St. Joseph.*

	Cattle.	Hogs.	Sheep.
Swift & Co.	1,800	8,380	5,239
Hammond Packing Co.	1,000	3,255	3,012
Morris & Co.	850	3,405	1,729

Sioux City.

	Cattle.	Hogs.	Sheep.
Cudahy Packing Co.	867	5,345	
Armour & Co.	855	5,285	
Independent Packing Co.		546	

K. Jurni Packing Co., 159 cattle; The Dubuque Packing Co., 56 hogs; John Morrell & Co., 28 cattle; J. E. Decker & Son, 417 hogs; The Layton Packing Co., 510 hogs; St. Louis Independent Packing Co., 80 hogs; J. L. Brennan & Co., 60 cattle; J. T. Talbot, 116 hogs; Britton Packing Co., 210 hogs; Sacks Dressed Beef Co., 64 cattle; Statler & Co., 67 cattle; Cudahy Bros., 375 hogs; Roth Packing Co., 61 hogs; others, 6,160 cattle.

*Incomplete.

NEW YORK LIVE STOCK

WEEKLY RECEIPTS TO SEPTEMBER 14, 1914.

	Beefves.	Calves.	lams.	Hogs.
New York	2,657	3,519	3,221	4,592
Jersey City	3,751	2,783	21,112	14,761
Central Union	3,976	510	13,626	
Miscellaneous	1,634	448	3,542	8,850
Totals	11,418	7,260	41,501	23,203
Totals last week	8,975	6,779	46,206	23,458

ARGENTINE BEEF EXPORTS.

Cable reports of Argentine exports of beef for the week up to September 18, 1914, show that exports from that country were as follows: To Europe, 81,261 quarters; to North America, none. The previous week's exports were as follows: To Europe, 59,292 quarters; to North America, none.

LIVE STOCK MARKETS

CHICAGO

(Special Letter to The National Provisioner from The National Live Stock Commission Co.)

Union Stock Yard, September 16.

Monday's market ruled fully steady on the choice to prime beefs, or in other words the kind selling from 10@11c. per pound, while on other grades the market was off anywhere from 10@25c. per cwt., most decline being on the steers selling from 9@10c. per lb. The supply was liberal, receipts totaling 23,580 head, including 6,500 Westerns. Tuesday's liberal run of 8,435 cattle included about 4,500 Westerns and about 1,000 canning cows direct to the packers from the other markets, leaving a very meager percentage of native cattle, including but few steers, and they were mostly on the low-priced killing and stocker and feeder order. The trade, while rather slow in anticipation of liberal mid-week receipts, was nevertheless steady with Monday's general level of values. Wednesday's run of 17,000 cattle included about 4,000 Westerns, making a total of 49,000 for the first three days of the week as compared with 32,000 for the first half of last week, at which time we had no market on Monday and 38,500 for the same period two weeks ago, the comparison being given to show that the receipts thus far this week are very liberal; in fact, the heaviest run we have had thus far this season, in view of which it is not surprising that the market is very slow and draggy and shows a downward tendency on everything but the real prime cattle, and they are selling readily at the high point of the season.

Aside from a rather liberal supply of canning cows direct to the packers from the other markets, the percentage of butcher stuff in the rather liberal receipts of cattle this week is very moderate, and while, because of the liberal supply of canning stuff direct to the packing outfits, the market on that class shows 10@15c. decline, everything else in the cow stuff line is meeting with a very satisfactory outlet and selling fully steady, while bulls show 15@25c. advance, and the calf market is at the high point of the season. Heifers of good to choice fat, especially those on the yearling order, are meeting with an exceptionally good demand, and the present satisfactory tone of the trade on butcher stuff would indicate continued good markets. We believe that such will be the case, barring the likelihood of some temporary easing off in values during the next week or two, due to certain Jewish holidays, the first of which will be celebrated next Monday. We rather expect a break in the calf market and some weakening in the steer trade, which will have a depressing effect upon butcher stuff. We believe, however, any decline that may take place within the next week or so will be recovered in short order and predict a steady butcher stuff trade during the month of October, and possibly up until the middle of November.

Receipts of hogs on Wednesday were estimated around 20,000, which was a little higher than generally looked for, and with fair Eastern shipping orders in the market, trade ruled largely 10c. higher, especially so on the choice lightweight shipping grades. The common and weighty packing kinds did

now show much advance from the high time of yesterday's trade. The range in prices continues to widen with a spread of \$1@1.25 per cwt. in hogs at the present time. Choice light and lightweight butcher grades sold for the most part in a range of \$9.25@9.40, with the choice light mixed and heavyweight butcher grades in a range of \$8.90@9.15, while the medium weight mixed carrying a good top sold in a range of \$8.60@8.85 and heavyweight mixed packing and heavy packing grades in a range of \$8.30@8.50. The local packing concerns have been very bearish in their views on the market for the near future, and it looks as though hogs would work lower from present values with anything like a decent run of hogs in the next two or three weeks. As a rule when we get into October values work considerably lower, and the high price of corn this year will have a tendency to push hogs off a little earlier than usual.

The trade in sheep and lambs has been on the boom since the opening of last week, lamb prices showing an advance of fully \$1 per cwt., as compared with ten days ago, while sheep and yearlings show a gain of 75c. per cwt. It does not seem reasonable to expect much more advance just at this time, as these sharp turns at this season of year always bring increased supplies and with it a declining market. It would appear, however, that available stock, suitable for both slaughtering and feeding purposes, is scarcer than any recent year, and that it is safe to predict a higher average range of values throughout the balance of the season. Never in the history of the trade have selections of feeding stock been so scant, and even at the abnormal range of prices on everything suitable to go back to the country there is not enough to supply the demand. Increased receipts that will surely follow the present advance will likely bring more liberal numbers of the medium-fleshed varieties, which will temporarily weaken the market, but there is nothing in prospects to indicate plentiful supplies and a low range of values at any time. We quote: Westerns—Good to choice lambs, \$8.60@8.75; fat yearlings, \$6.50@7; good to choice wethers, \$6@6.25; fat ewes, \$5.60@5.85; feeding lambs, \$7.30@7.55; feeding yearlings, \$6.25@6.40; feeding wethers, \$5.25@5.40; feeding ewes, \$4.50@4.75; breeding ewes, \$5.75@6; yearling breeding ewes, \$6.50@6.75. Natives—Good to choice lambs, \$8.75@9; poor to medium, \$8.25@8.50; culls, \$6.25@6.75; fat wethers, \$6@6.25; fat ewes, \$5.50@5.75; poor to medium, \$5@5.25; culls, \$4@4.50; choice breeding ewes, \$5.85@6.10; short-mouthed breeding ewes, \$4.50@5.

KANSAS CITY

(Special Letter to The National Provisioner.)

Kansas City Stock Yards, Sept. 15.

A supply of 46,000 cattle in two days this week, the largest run this year, met a very good demand. Prices were steady on the best cattle yesterday, weak to 10c. lower on others, and the market is generally steady today, with good action. Prime natives are becoming very scarce. A two car drove of 1,520-pound steers brought \$10.75 today, and another drove of 1,350-pound steers \$10.65. Missouri corn and blue grass steers in each instance. Middle grades of fed natives are very scarce, and sell at \$8.25 upwards. Kansas pastures have not contributed very heavily this week, although the season is at hand when owners of cattle in same will have to act, account of frost destroying the grass. Most of the early sales of Kansas grass steers today were at \$7.25@8. Some good cattle selling up to \$8.85. Quarantine steer sales this week range from \$5.50@6.90,

receipts 119 cars yesterday, 30 cars today. Panhandle cattle are now moving freely, and quality and flesh are fully up to the usual high standard from that section. Panhandle twos and threes sell at \$7@7.75, yearlings and calves \$6.75@8.35, cows \$5.25@6.25, heifers \$6.65@7.25. All kinds of feed is being made at an amazing rate since the late rains have fallen.

Hogs sold 10c. lower today, receipts 10,000 head. Top was \$8.65, and a good many hogs were taken by order buyers at \$8.50@8.65, packers taking the remainder at \$8.30@8.55. Order buying trade is a distinct asset, top here yesterday 20c. above nearest Missouri river point, without that demand. Heavy packing grades have suffered most of the recent decline, bulk of sales at Chicago today ranging from \$8.25@8.75.

Sheep and lambs are 10@20c. higher today, following a similar advance yesterday. Idaho lambs sold at \$8.40 today, and fair to good lambs brought \$8.25 that would have stopped at \$8 yesterday. New Mexico yearlings brought \$6.35, wethers worth \$6, ewes \$5.25@5.65, breeding ewes \$5@5.75, feeding lambs \$6.90@7.25. Receipts today 12,000, same number yesterday.

OMAHA

(Special Letter to The National Provisioner.)

South Omaha, Neb., September 15.

During the past ten days the cattle market has developed considerable activity and strength and prices are back to where they were two or three weeks ago, "before the war." Corn fed beefs have been very scarce and desirable grades have sold up well right along, choice yearlings bringing \$10.15 today. Medium to fair grades have suffered from the competition of Western grassers and have been going at rather uneven figures from \$8.60 to \$9.60 and on down. Choice Western grass beefs are selling well, some prime Montanas going at \$9 today. Bulk of the fair to good grass beef is selling around \$7.50@8.10, and the common and Texas grades around \$6.50@7.25 and on down. Demand is broad and there is a strong, healthy undertone to the market, a vigorous competition from the feeder buyers serving to make a broad outlet for the rangers. Cows and heifers have recovered practically all of the recent big decline and there is a broad outlet for all grades of she stock and especially for canners and cutters. Grass cows and heifers are selling from \$4 to \$7.50, the bulk of the fair to good butcher and beef stock going at \$5.50@6.35. Veal calves continue scarce and firm at \$8@10.25 and bulls, stags, etc., are going freely at steady figures, \$4.85@6.85.

Notwithstanding the sharp falling off in receipts of hogs the past few weeks, the trend of values has been lower and the decline steady. Packers are insisting that prices must go lower or they will let the hogs alone, and there is a very limited shipping inquiry. There were about 4,000 hogs here today and the market was 5@10c. lower. Tops sold at \$8.60 as against \$8.80 last Tuesday and the bulk of the trading was at \$8.20@8.35 as against \$8.60@8.70 a week ago.

Sheep receipts are running away short of this time last year and prices are going upward for practically all grades; in fact, prices are higher than they have ever been in September for both killer and feeder grades. Demand is very keen and the trading decidedly active every day at the firmer figures. The market is fully half a dollar higher than a week ago. Fat range lambs are quoted at \$7.40@8.50; yearlings \$5.75@6.40; wethers \$5.30@5.80, and ewes \$4.75@5.40.

HIDE AND SKIN MARKETS

(SHOE AND LEATHER REPORTER)

Chicago.

PACKER HIDES.—Trading was of fair proportions in packer hides this week. All the popular selections but branded cows and native bulls moved at strong figures. No further advances were scored in the movement this week, sellers seeming to be satisfied with existing rates. Some operators contend that light native cows are easy, as none have been sold at the asking rate of 20c. for some time past. Native and Colorado steers received the most attention this week, over half of the hides moved being of these grades. Buying was mostly in small lots of one to three cars each and scattered among many tanners. Native steers moved in several lots to the extent of about 10,000 August and September kill at the top rate of 21½c. More are available at this figure, and some killers are talking a 22c. market for the near future. Spread native steers were quiet. Last sales were at 22½c. for salting up to date. Goods ahead are quoted nominally at this figure, with limited supplies unsold. Texas steers brought the former top rate of 20½c. for about 4,000 August and September heavy weights. No underweights were moved. Lights are quoted at 19½c. last paid, with some sellers talking 20c. on next business. Extreme lights are quoted at 19c. asked, and last sales made some time ago at 18¾c. Available stocks are small, but the slaughter of branded cattle is increasing now. Butt branded steers brought top figures of 20c. for about 6,000 August and September hides, several tanners doing the buying from a number of packers. More are available at this rate. Colorado steers went at the former rate of 19½c. involving about 14,000 August and September hides split up into several trades. Branded cows did not sell. Last sales were at 19c. Heavy native cows went at the top figure of 19½c., involving three cars of August and September kill. This is considered the market on further business. The slaughter is small as cattle now throw hides under 55 lbs. cured. A car of old hides went at 19c. for April and May takeoff, and 19½c. for June forward. Light native cows went at 19c. for two small cars of March and April kill. No sales of late slaughter has been reported for some time past. Current kill is held at 20c., with tanners of the opinion that 19½c. would purchase. Stocks are not burdensome. Native bulls did not sell. January to June goods of particularly heavy average are available at 15½c. Last sales of June to January were at 16½c., and 17c. is now asked for such kill. Branded bulls sold at 16c., involving 2,000 August and September Fort Worth kill, light in weight. Former sales of light average Northerns were at 15½c. Some heavy branded bulls of slightly earlier kill are available at 14½c. without attracting attention.

COUNTRY HIDES.—Trading was of fair proportions in country hides with the business scattered to a considerable extent. Heavy steers sold at the former rate of 17c. for one car of strictly short-haired hides. Supplies are not large as receipts do not contain many steers over 60 lbs. in weight. Heavy cows sold at 16½c. for one car of hides short haired in quality. This selection is very hard to

move and sellers seem willing to accept slight concessions in order to keep stocks down. Buffs were taken at 17c. to the extent of about 5,000 hides of short haired quality. Several dealers were involved in the movement and the business was scattered among several tanners. This selection is now offered as low as 16¾c. for summer goods and not finding ready sale. Most dealers ask 17c. for their supplies. Number two buffs were not sold alone. The situation at outside points is quiet, with numerous offerings available and some pressure being exerted to move lots. All weights of seasonable hides are quoted at 16½c. delivered Chicago basis for business, from points west and northwest of here. Goods from sections east are quoted at 16¾c. 17½c. f. o. b. as to quality. Extremes moved at 18c. to the extent of about 3,000 seasonable hides and two cars brought 18½c. of extra choice quality. Branded hides are very hard to sell, as the principal buyers are out of the market. Sellers ask 14½c. flat for their stocks, while buyers' ideas would not be over 13½c. for business, so operators say. Country packer branded hides are quiet and quoted up to 17c. for best lots containing a large percentage of steers. Bulls continue dull and featureless. Stocks consist mostly of heavy hides over 90 lbs. in weight, the call is for hides under that figure. The market for business is considered about 13¾c., while 14½c. is usually asked. Country packer bulls are quoted at 14½c. 15c. asked as to lots.

CALFSKINS were quiet in strictly Chicago city varieties, but some of these skins with about 20 per cent. outside cities included moved at 23c., or a cent under what similar goods sold at previously. On the other hand a car of outside city skins moved at the former sale rate of 22½c. Some broker's advice of offerings of similar skins as low as 21½c. without attracting attention. Countries are quoted nominally at 20c. for business; packers are not held as firm as formerly, killers displaying more of a disposition to meet buyers half way. Tanners, however, are making no inquiries. Last sales of packers were at 25c. and 26c. is considered full value for September slaughter at present. Deacons and light calf are quiet and quoted nominally at \$1.05 for the former and \$1.20@1.25 for the latter. Outside rates were the last paid. City light calf quoted at \$1.45 last paid. Kipskins sold at 20½c. for two cars of choice skins of outside city and country collection. Regular country run is available at 20c. and not taken. Cities are held at 21c. and packers at 22c. for business.

HORSE HIDES moved at \$5.30 for a couple of cars of country run. Recent business was effected at \$5.25@5.35. Some sellers are asking up to \$5.50 for their rather ample stocks of country takeoff. Cities range at \$5.50@5.75 as to quality for business, with some sellers asking up to \$6 for their holdings. No. 2 hides are quoted at the usual \$1 reduction, with the ponies and glues out at \$1.50@2, and coltskins at 50@75c. asked as to quality.

HOGSKINS are moving out about as fast as available in small parcels to the local trade at 60@75c. for the regular country collection, with the rejected pigs and glues out at half price.

SHEEP PELTS.—Pullers are still rather anxious for choice sheepskins, and seem willing to pay existing rates for late kill and slaughter ahead. Dry skins are considered strong due to limited supplies at last sale figures. Packer sheepskins are quoted strong at \$1.05@1.10 paid as to quality flat for weights. Killers are not grading heavy and light skins on 12 pounds as in former years. Packer lambskins moved as high as \$1.07½ for first half of September takeoff. Country shearlings are moving in a range of 40@60c. average as to quality of seasonable uniform

lots; country packer skins range up to 85c. asked as to quality; country spring lambs are quoted at 50@75c. average, and country packers up to 95c. for best lots; dry Western pelts are steady at 16½@17c.; outside for best Montana descriptions and inside for Wyoming skins.

New York.

DRY HIDES.—Stocks on hand are constantly increasing as arrivals are put into store. Buyers are not interested at today's prices. Close to 50,000 hides are for sale, while at this time last year there were no stocks at hand. The principal sale during the week was over 6,000 Puerto Cabellos on a basis of 27c.; 29,000 Buenos Aires were imported for tanners' account. Sales were made of small lots of Brazil dry hides 21c.; 3,200 wet salted Porto Ricos sold at 12½c., a drop of 2½c.; 5,000 steers and 5,000 cows of South America. Buenos Aires and La Blancas sold at 38.50, Argentine gold. Bogotas now selling at 29c. Close to 25,000 offered for sale. Mexicans sold at 23c. Wet, salted Mexicans of poor stock offered at 14c. Cubans averaging 50 pounds offered at 13½c.

CITY PACKER HIDES AND SKINS.—Two cars of city kosher native steers of August-September kill sold at 20¾c. Some packer natives of June, July and August takeoff sold at 20½c. August natives alone brought 20¾c., two cars of each selling. September natives now quoted at 21½c. Spreadies 22c. though a sale of 1,400 kosher spread native steers brought 22½c. Butt brands nominal at 19@19½c. Colorados 18¾@19¾c. Native cows 18c., and bulls 16½c.

COUNTRY HIDES AND SKINS.—Dealers asking 17c. for Pennsylvania buffs, with 16½c. bid. Extremes 18c. asked, with 17½c. bid for good hides. New York and Pennsylvania all weights quoted at 16c., but with increased kill anticipated some buyers predict a 15½c. market. Some small lots of New York and Pennsylvania sold at 16c. flat. A car of Pennsylvania buffs brought 16¾c. Heavy bulls taken at 13c.

CALFSKINS.—A car of New York City calf sold at private terms. In August 70c. was asked for a car of Courland Sharren dry calf 2½c. average. They were sold the other day at private terms, but possibly about 60c. was obtained. Holders ask \$2.10, \$2.75 and \$3 for New York City calfskins with receipts light. Buyers not interested at these figures.

SLAUGHTER REPORTS

Special reports to The National Provisioner show the number of livestock slaughtered at the following centers for the week ending September 12, 1914:

CATTLE.

Chicago	24,931
Kansas City	24,052
Omaha	10,907
St. Joseph	3,067
Cudahy	478
Sioux City	2,052
South St. Paul	4,805
New York and Jersey City	11,418
Fort Worth	10,416
Philadelphia	2,748
Pittsburgh	1,602
Denver	1,066
Cincinnati	3,340

HOGS.

Chicago	50,720
Kansas City	23,111
Omaha	14,306
St. Joseph	16,955
Cudahy	3,645
Sioux City	11,494
Ottumwa	4,300
Cedar Rapids	2,763
South St. Paul	10,588
New York and Jersey City	23,203
Fort Worth	9,139
Philadelphia	3,319
Pittsburgh	5,165
Denver	2,662
Cincinnati	9,210

SHEEP.

Chicago	90,113
Kansas City	34,935
Omaha	48,004
St. Joseph	11,508
Cudahy	591
Sioux City	4,756
South St. Paul	3,183
New York and Jersey City	41,501
Fort Worth	2,829
Philadelphia	9,523
Pittsburgh	5,075
Denver	2,734

ICE AND REFRIGERATION

NEW CORPORATIONS.

East Williamson, N. Y.—D. Wagemaker, J. Wagemaker and E. A. Freer have incorporated the Wagemaker & Freer Farm Company, to deal in farm products and implements, cold storage and warehousing, with a capital stock of \$80,000.

ICE NOTES.

Anahuac, Tex.—The Anahuac Ice Plant and Cotton Gin was damaged by fire with a loss of \$3,000.

Carlisle, Ky.—An ice plant will be installed by the Carlisle Electric Light and Power Company.

Okolona, Miss.—A small cold storage room will be added to the present plant of the Okolona Ice Factory.

Blackwell, Okla.—This city is contemplating the construction of an ice plant. For information address the Mayor.

St. Petersburg, Fla.—The St. Petersburg Ice and Cold Storage Company will improve and install additional equipment in their plant.

Griffin, Ga.—Authority has been given by the Georgia Railway Commission to the Griffin Gas, Ice and Cold Storage Company to issue \$100,000 stock and \$100,000 bonds.

Gambrills, Md.—Navy Department, the Bureau of Supplies and Accounts, Washington, D. C., will install a refrigerating and ice plant at the Naval Academy dairy farm.

Sebastopol, Cal.—The warehouse and refrigerating plant of the Berry Growers' Association has been destroyed by fire, with a loss estimated at \$50,000; partially covered by insurance.

New York, N. Y.—Wm. L. Morek has been appointed by Judge Mayer as receiver for Leonard C. Smith, manufacturer of artificial ice at Eighth avenue and 155th street. The assets are said to be \$10,000.

There are plenty of men out of employment, but a good packinghouse man need never be idle if he makes use of the "Wanted" department of The National Provisioner.

REFRIGERATION IN NORTH AFRICA.

Both the manufacture of ice and refrigeration are very limited in the district of Tripoli, North Africa, writes Consul W. Roderick Dorsey, and the prospect for expansion is not encouraging. The use of ice for household purposes is confined to the European population, numbering some 10,000, and mostly Italians. Natives find no need of it; they have few drinks to cool, and their food acquired from meal to meal demands no artificial methods of preservation. Moreover, they have no money for luxuries, and so the native inhabitants may be disregarded as a factor in such an industry.

The only ice factories are in Tripoli, and in only one other city—Benghazi—is there a sufficient European colony to encourage the installation of a machine of even small capacity. Some 1,200 foreigners reside there, about the same number as in Tripoli prior to the Italian occupation, when a machine turning out a ton a day was ample. But the arrival of military forces and the influx of civilians increased local demand, and, with the idea that the boom was a permanent condition, three factories, with a daily total capacity of 32 tons, and one cold-storage establishment were erected in 1912.

Only the last provided refrigeration, and that is but one small room, which is cooled with the ice manufactured with an Italian machine capable of turning out one ton per day. The sole regular patron is the German representative of an Austrian beer imported from Trieste, and he is compelled to pay at the rate of 5 lire per hectoliter (about 3 2/3 cents per gallon) and to contract for a minimum storage of 150 hectoliters (3,962 gallons), or 750 lire (\$144.75) per month.

At irregular intervals the military commissariat also stores fresh meat, but all other animals for local consumption are slaughtered by small butchers as needed, and carcasses are never refrigerated. The only perishable cargoes reaching Tripoli at present are fresh fruits from Sicily, but these arrive in small lots and go direct from ship to stall.

Of the three ice factories only one, the Società Ghiacciare Reunite dell'Eritrea, is working. A sort of trust, known as the Società Ghiaccio Reunite Tripoli, was formed, under the terms of which the operating concern pays the other two an amount annually sufficient to cover interest and charges on their investments; in return they agree not to operate, thus removing from competition the 6 tons daily capacity of the second company and the 13 tons of the third. These are both equipped with Italian machinery.

The Società Ghiacciare Reunite dell'Eritrea has a capacity of 13 tons per day, and is equipped entirely with German machinery, the investment being about 225,000 lire (\$43,425). The staff consists of the manager, 2 machinists and 8 Arabs, and the output is 6 to 6½ tons per day, the latter figure being reached on July 23, when it was unusually hot. The ordinary ammonia process of freezing is used and the product is turned out in oblong cubes of 5 kilos (11 pounds) each. The company deals only with the retailers, who sell to consumers at 0.20 lire per kilo, or \$0.01¼ per pound.

The directors have before them recom-

mendations for the new premises that include ice machines, cold storage, brewery, laundry and a mineral-water factory; apparatus for the last has already arrived from Germany, but is not operated for lack of space. In the opinion of the manager the present site is too far out to attract cold storage patrons, and a central position will be sought for the new buildings. A convenient site to accommodate small butchers and grocers, together with low prices, might be attractive.

Among improvements contemplated by the government is a market similar to one in Cairo, having stalls provided with ice boxes in which articles may be displayed to the public and at the same time be protected from heat and dust. The Società Eritrea hopes to furnish the necessary refrigeration for this scheme when it materializes. The only other possible project that has come to notice is that the beer importer already mentioned, on account of the high prices he is now compelled to pay, threatens to establish a small plant at the beginning of 1915. There are no breweries or packinghouses in the district, and no dairy requiring more than ice-box refrigeration.

GRAPHITE AS A BOILER CLEANER.

By W. R. Starr.*

The financial end of an industry necessarily absorbs the major portion of a careful business man's attention, but in time this end of the business may become so well regulated as to automatically adjust itself to the business barometer. This same condition of affairs exists in other departments of manufacturing enterprises, and we find perfectly regulated, smooth-running factories that appear to be almost self-operative, but in this "picture perfect" of industrial activity there is always one cog missing. This cog is the boiler room, and the factories are few and far between which can boast of no boiler trouble.

How often have you heard this remark, "We have no trouble with boiler scale, having only an egg-shell thickness of it." Doubtless you have often heard it. I have, and yet that egg-shell thickness costs many dollars at the end of the year in fuel that was unnecessarily consumed. There are, of course, other losses to be charged to this scale, but I have mentioned but the one because it is the most important to the man who signs the checks.

For years engineers of all kinds, business men and chemists have devoted their energies and learning to solving this problem of scale in boilers, only to be rewarded with but mediocre success. Thousands of chemicals have been compounded. In some instances they have succeeded; in vastly more they have failed. And after all these years of study and experimentation the problem appeared as insurmountable as ever until within the last year or two. It remained for Mother Nature to do what the ingenuity and skill of man had failed at—to furnish a scale remedy for boilers, one that would be harmless to the metal of the boiler. Since the discovery that graphite would clean boilers, the

*From a paper read before the Interstate Oil Mill Superintendents' Association, Columbia, S. C. Reprinted in "Ice," Atlanta, Ga.

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Equipment for houses of
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BUFFALO: Keystone Transfer Co.; J. W. Gilbert.
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CLEVELAND: General Cartage & Storage Co., Henry Bollinger.
DETROIT: Riverside Storage & Cartage Co., Newman Bros., Inc.
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HAVANA: O. B. Cintas.
INDIANAPOLIS: Railroad Transfer Co.
JACKSONVILLE: St. Elmo W. Acosta.
KANSAS CITY: Crutcher Warehouse Co.
LIVERPOOL: Peter R. McQuile & Son.
LOS ANGELES: United Iron Works.
LOUISVILLE: Union Warehouse, 7th and Magnolia Sts.
MILWAUKEE: Central Warehouse.

MEMPHIS: Patterson Transfer Co.
MEXICO, D. F.: Ernst O. Heinsdorf.
NEWARK: American Oil & Supply Co.
NEW ORLEANS: Chas. F. Rantz.
NEW YORK: Roessler & Hasselacher Chemical Co., Shipley Construction & Supply Co.
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SALT LAKE CITY: Utah Soap Co.
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ST. PAUL: R. B. Whitacre & Co.
SAN ANTONIO: Oriental Oil Co.
SAN FRANCISCO: United Iron Works.
SAVANNAH: Benton Transfer Co.; R. Zuck, Jr.
SPOKANE: United Iron Works.
SEATTLE: United Iron Works.
TOLEDO: Moreton Track & Storage Co.
WASHINGTON: Littlefield, Alvord & Co.

care and management of steam boilers has been simplified.

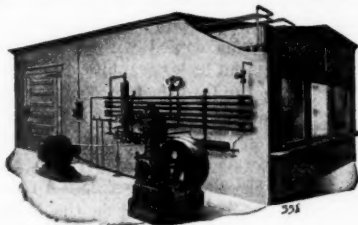
To some people graphite is graphite, but never was a more erroneous belief formed. There are graphites and graphites, some running high in graphitic carbon and others having merely a trace of that necessary element. Some graphite which is apparently of high purity is found to carry a considerable percentage of anthracite coal or coke, both of which, like graphite, test as carbon, and for that reason are difficult to detect. This is merely mentioned as a caution to those who contemplate the use of graphite to be careful in their purchases.

The action of graphite is a mechanical rather than a chemical one. It is easy to conceive that molecules of scale-forming material would find it more difficult to attach themselves firmly to surfaces made non-receptive by a coating of slippery graphite than upon clean sheets, and that the crystals of scale floating in water permeated by graphite would become so coated with this substance, which possesses so little coherence and so much adherence, that they could not aggregate themselves into a firm, strong coating upon the surfaces.

The breaking down of old formations is made possible by the fact that, owing to the unequal expansion and contraction of the metal of a boiler and the scale in it, the latter, during alternate periods of heating and cooling, becomes more or less cracked and checked. The presence of these little cracks gives graphite its power to disintegrate and break down old scale, regardless of character and thickness. Circulating with the water, the graphite works into and through these minute openings, which are otherwise almost immediately re-cemented by the scale-forming matter in the feed water, and deposits itself on the inner surfaces of tubes and shell between the metal and the scale, with the result that the latter will no longer adhere tenaciously and may be removed with comparative ease. If the scale is thick, it sometimes comes off in quite large strips or slabs; if thin, it sloughs off in the form of sludge or small scales.

After a boiler has once been cleaned of its accumulation of old scale, the continuous use of graphite in correct quantity will effectively prevent the subsequent formation of that hard scale so difficult to remove, since it will form in and with the scale matter and keep the latter so loose as to permit it to be easily taken out. With some feed water graphite may prevent the formation of all

WATCH PAGE 48 FOR BARGAINS



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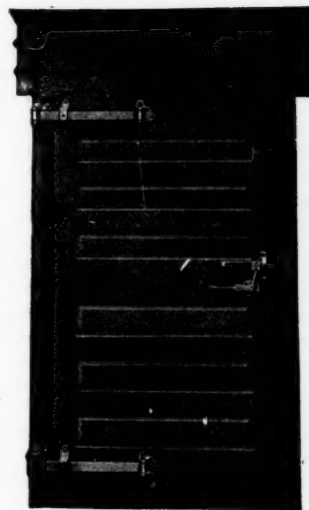
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DOORS



Our Mr. J. V. Jamison, Jr., will be in charge of our exhibition, Room 812, Hotel LaSalle, Chicago, during the Packers' Convention in October. Don't fail to call and see our exhibit.

JAMISON COLD STORAGE DOOR CO.

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scale that may not be eliminated by blowing down and washing out, although, generally speaking, most feed waters carry scale-forming materials in such quantity that a coating will form to some extent in spite of the presence of graphite, but the graphite will keep that coating soft so that it may be removed with comparative ease.

The action of graphite is gently mechanical instead of chemically severe, and no matter how generously used, it will not attack or pit the steel of a boiler. Another advantage is that, working mechanically, graphite is effective in any feed water, thereby not only avoiding the trouble and expense of making frequent water analyses, but doing away with the necessity of keeping on hand a number of different compounds, as is frequently necessary for locomotive boilers where there may be a number of different kinds of feed water on a single division of the road. Also, because it acts mechanically and is insoluble, it cannot, under normal conditions, carry from a boiler with the steam and thereby render the latter unfit for industrial purposes, as, for instance, in breweries, laundries, packinghouses and ice plants. Pure graphite does not cause foaming.

Boilers that have been troublesome or that have been neglected cannot be expected to show the most desirable results until graphite has been in continuous use for two or three months. The experience of engineers who have used graphite in the United States and elsewhere has shown it to take from eight to twelve weeks of constant use before all old scale can be easily removed. It is the daily introduction of the correct quantity of graphite that brings satisfactory results. Its use is both easy and simple, as any method of feeding will answer, provided that the correct quantity is introduced each day with the feed water, and naturally a steady feed will be found most effective.

It has been charged by some that graphite is injurious to a boiler and sometimes causes a boiler to leak. The fact is that even the generous use of pure graphite can in no way harm a boiler, since it acts mechanically, not chemically, and then only on the scale and scale-making materials. Graphite is nothing but carbon in its most inert form, and all feed waters contain more or less carbon, which comes from organic matter decomposed by the heat. If this carbon does not act harmfully on a boiler, the addition of graphite, which is still more inert and an excellent heat conductor, will not do so.

The impression held by some that graphite is a non-conductor of heat is without foundation, for, unlike other formations of carbon, pure graphite is a good conductor of heat, and consequently scale impregnated with it would have to be much thicker than otherwise to injure a boiler. In this connection I quote from a monograph on graphite published at Ottawa, Canada, 1907, by the Department of Mines of the Canadian government. It says in part: "One of the most important qualities of graphite crucibles is their heat conduction. In all true crucibles or in closed fusion the heat units necessary to melt the metal contained must pass through the wall of the crucible. The difference between the general average temperature developed in the furnace outside of the crucible and of that developed inside is considerable. This difference is due to the loss of heat in transmission through

the wall of the crucible. Hence the crucible mixture which is the best conductor of heat is the most economical, both of time and fuel.

In respect to its heat conduction quality, the graphite crucible stands far superior to all other kinds. Graphite alone is a ready conductor of heat. It is due to this quality that the charge of a steel melting crucible in the United States is from 95 to 115 pounds, while the charge of the English clay melting crucible is seldom more than 60 pounds. Also, it is due mainly to this property that the number of charges taken from a steel melting furnace in twenty-four hours, when a graphite crucible is used, is as high as seven or eight, while in furnaces using the clay crucible it rarely happens that over four charges are taken from the furnace in the same time."

Tests made by the Pittsburgh Testing Laboratory show that graphite in boiler scale increases heat conductivity rather than decreases it. In these tests the interior of a metallic vessel was coated with a mixture containing: Mexican boiler graphite, 10 parts; clay, 10 parts; sand crushed to 60 mesh, 10 parts; sulphate of lime, 15 parts. The sulphate of lime was used in the form of plaster of Paris and formed the bond between the materials and the metallic surface. An exactly similar vessel was coated on the inside with a mixture containing: Clay, 15 parts; sand, 15 parts, and sulphate of lime, 15 parts. The second mixture contains clay and sand in exactly the same ratios as the first mixture, but the 10 parts of graphite are replaced by 5 parts of clay and 5 parts of sand. Each metallic vessel was placed in an outer vessel containing 350 cubic centimeters of boiling water and 175 cubic centimeters of cold water were placed in each of the scale-coated metallic vessels. Heat was continuously applied at the same rate to the outer vessels, and the relative conductivity thus obtained of the scale with and without graphite showed that the scale containing graphite allowed the passage of heat to take place more rapidly

than the scale containing no graphite, and that graphite is a much superior conductor to a mixture of clay and sand.

Tests were also made to determine the relative rate of transfer of heat from water to water through metal coated with scale containing the following mixtures: Graphite, 20; sand, 10; sulphate of lime, 15; and the same mixture with 5 parts of cylinder oil incorporated. These mixtures formed adherent scales on the metallic vessels. The addition of cylinder oil, of course, lowers the conductivity of scale, even when it contains graphite. The insulating properties of oil are well known. The laboratory investigations showed also that the statement that graphite combined with a lubricant would, on account of the non-conducting nature of the graphite, cause overheating or burning, is untrue, and that oil in a boiler would form a better conducting mixture with graphite than with the lime compounds or clay, which are common impurities in boiler water. The tests showed beyond any question that graphite in boiler scale improves the conductivity of the scale very materially.

CANNED MEATS FOR ARMIES.

It is reported from Kansas City that the canning departments of the Armour and Cudahy companies are busy turning out meat for the allied armies in Europe. The orders were placed with the main plants in Chicago. The Armour Company is said to be supplying Great Britain and France with 1,000,000 pounds of canned beef. Cudahy Company has a standing order that will keep the canning department busy for a year.

The Armour shipment is to go to England by way of Quebec, and will be conveyed by British warships now in Canadian waters. The packers maintain secrecy about the orders and the ultimate destination of the shipments and the routes they will take because of fear of attempted interception and seizure by German warships at sea.



From "Armour."

TRANSPORTING ARMOUR PRODUCTS IN SOUTH AMERICA.

FOR PURCHASING DEPARTMENTS

BIG TANKWATER EVAPORATOR ORDER.

The Swenson Evaporator Company of Chicago has just completed shipment of what is claimed to be the largest single order ever placed by a packer for tankwater evaporators. The order was from Armour & Company, and covered five large triple-effect evaporators, ranging up to 2,000 gallons per hour, being similar to about 250 other Swenson installations for the same purpose in packing and rendering houses. This brings the Armour purchases of Swenson evaporators up to nearly forty. One of the new ones was sent to their South American plant at La Plata, Argentina.

MOTOR TRUCKS FOR GREECE

Fourteen freight car loads of one and one-half ton KisselKar Trucks left the plant of the Kissel Motor Car Company at Hartford last Thursday, consigned to the government of Greece. This was the first installment of an order for fifty of these vehicles, placed by the Grecian minister to the United States, Agamemnon Schleimann.

It has been persistently rumored that these trucks are not really intended for the Greeks, but were bought for one of the present active combatants in the European war. This is denied by those who are best informed in the matter, and strong color is given to the denial by the presence at the Kissel plant for several days of Lieutenant E. Pappayanni of the Greek army, who, with an American engineer, made some final tests over the Wisconsin hills. Each of the trucks had to be boxed for export, and it is estimated that the amount of lumber required to enclose the whole order would build three ordinary frame houses.

It is understood that the KisselKar trucks are but a part of an entire shipload of American goods bought by the Greeks. Speculation is current as to whether Greece is getting ready for a war of defense against Turkey, which in turn declared to be getting ready to join Germany and Austria against the Triple Entente.

NEXT SEASON'S BEEF SUPPLY.

(James E. Poole in The Breeders' Gazette.)

For months past every day's slaughter of cattle has been a draft on the future. While the country is undoubtedly imbued with a desire to get back into the cattle business and in some localities progress in that direction has been made, every scrap of information available indicates that the 1914 shortage affords no criterion of how bare the markets of 1915 will be. This year's deficiency in beef tonnage is due to a factor that will be equally effective during the next twelve months, even if stock cattle were available at reasonable prices.

At Chicago distillery feeders have paid \$7.70 per cwt. for Western steers and been able to get only a handful on that basis. Farmer feeders are paying \$7.75 per cwt. for a class of steers many of them would not have seriously considered a few years ago, and at Kansas City sappy grassers, fit for a short finish on corn, have been selling as high as \$8.50 per cwt.

What would have happened had pastures been normal and the corn crop prospect good may be imagined. Cattle would probably have been laid in at such high initial costs that a profit at the finality of the transaction would have been impossible. The combination of conditions has prevented many from investing in stockers, and the money stringency has also exercised a restraining influence.

This year the half-fat brigade from parched pastures has gone to the slaughterers. These were originally laid in with the object of grazing down the first cost and finishing on new corn.

Up to the early part of August cattle feeders were furnished with no incentive at the market to convert corn into beef and for a lengthy period killers had access to an abundance. Feeders recalled what happened in 1913, when heavy cattle were a drug, and in many cases unloaded prematurely. The result was that by the end of August only a few droves of heavy bullocks were available.

Estimates of the deficiency range from 25 to 40 per cent., according to locality. As grass was good this year and corn is realizing prohibitive prices, killers will take a large slice of the Kansas crop direct from grass, the proportion going into Illinois feed lots for a hardening on corn being limited. Advances from the Northwest are that gathering will be over early. The Northwestern run will carry few feeders, increasing the difficulty attendant on replenishing corn belt feed lots.

Little beef is in sight from Mexico, and last year's contribution from Canada can not be repeated. Fat cattle are selling higher at Toronto than at Buffalo, and filling an order for feeders in Canada is almost impossible. Fat cattle have advanced about 30 per cent. in Canada since our duty was removed. Butcher cows and bulls show an advance of about \$2 per cwt. and stockers and feeders of \$1.50@1.75 per cwt., all of which is due to competition from our buyers. Chicago killers have been scouring Ontario for canner cows recently, paying Chicago prices.

Even had the country been full of roughage and corn been reasonable in cost beef-making during the ensuing year would have been of small volume, because stock cattle are not available, but wholesale slaughter of light steers during the summer drouth, coupled with apprehension that there will be no profit in the finishing operation when the board bill has been settled, will result in further contraction. Every scrap of handwriting on the wall points to scarcity and high prices for meat animals during the ensuing year.

HOG BUYING AT ST. LOUIS.

Packers took a larger percentage of August receipts at this point than they did a year ago, says the St. Louis National Livestock Reporter. The past month the Eastern order buyers secured only 33 per cent. of the total run, whereas in August of 1913 the order trade got 40 per cent. of the supply.

However, figures for the first eight months of the present year show that order buyers got a total of 673,736 head of hogs at this

market, which constituted 40 per cent. of the aggregate receipts for the eight months period. The same time last year order buyers took only 592,860 head of hogs for eastern shipment, this representing but 35 per cent. of the total receipts here for the first eight months of 1913.

The following table shows monthly receipts and shipments of hogs from East St. Louis, Ill., for eight months of 1914, with comparison for similar period last year:

HOG RECEIPTS AND SHIPMENTS.

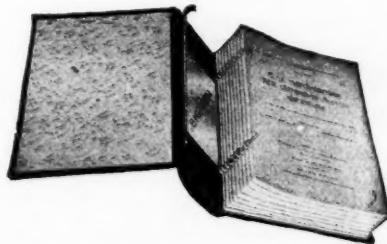
1914.			
	Receipts.	Shipments.	%
January	291,341	135,919	46
February	285,284	132,744	50
March	224,181	101,343	45
April	197,312	85,632	43
May	208,748	73,817	35
June	195,584	41,711	21
July	150,557	49,082	32
August	163,180	53,488	33
Total 8 mos. ...	1,696,187	673,736	40

1913.			
	Receipts.	Shipments.	%
January	282,960	120,220	42
February	219,015	95,926	43
March	194,211	95,870	49
April	189,664	62,779	33
May	231,442	55,228	24
June	226,463	31,459	14
July	189,016	54,297	28
August	175,222	77,072	44
Total 8 mos. ...	1,707,993	592,860	35

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How often have you wished to refer to an article or an item of trade information or some valuable trade statistics in some back copy of The National Provisioner, only to find that copy lost or mutilated? You will be glad to know that we have succeeded at last in securing a really practical binder. You can now have your Provisioner in the form of a handsomely bound book ready to refer to at any time.

The new binder is the simplest made. The binding is as simple as sticking papers on an



ordinary file. Each binder holds 26 copies of The National Provisioner, or an entire volume. The binder has the appearance of a regular bound book. The cover is of cloth board and the name is stamped in gold. The binder makes a substantially-bound volume that will be a valuable part of your office equipment or a handy addition to your library.

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Chicago Section

Kansas is calling the Kernel, and not in vain.

And the little soldier bravely—crawls to school!

There IS a difference between license and liberty.

Hellova note if they change Berlin to Bearlinski. Never'mtelli.

"Pipes" McDermott says he is going back to Washington, D. C.

Have you "wised up" on the new catch-basin? If you haven't, get busy!

Kiauchau—whatever else it may be—spells like an attack of hay fever—Ki-au-chau!!!

Hoch der Kaiser! Maybe they will have to, before they get through, to raise the dough.

Krupp stock should show handsome dividends, and Bill's rakeoff will be worth while.

"Hoist by your own petard" means blown up by your own bomb, or words to that effect.

This war will be stopped and settlements made when the contending countries get good and ready.

'Twould seem that if the Allies don't hurry up and get licked, somebody's calculations will "gang agley."

Fifteen million bales of cotton at \$50 per bale means \$750,000,000. Why not trade cotton for short ribs?

Board of Trade memberships are selling at \$2,000 net to the buyer. Applications and transfers are about even.

The war seems to be getting along nicely without the Kernel, and so seems to be the United States Government.

Hon. Carter H. Harrison, mayor of Chicago, and Oscar F. Mayer, packer and "night mayor," are away on a hunting trip.

Guessing the grain market *right* this week would have been a very profitable guess—around 8 cents a bushel profit, at times.

Monarchs are no more liable to create war than some presidents of republics are, aided and abetted by jingo newspaper owners.

Eleven cents per pound on foot for cattle

and loaded with water to the exploding point at that, does not look like cheap dressed beef, wot?

That dog-gone Turkey will keep on strutting around the choppin' block until some of the gang get him for Thanksgiving dinner, sure!

Several deaf mutes interested in war proceedings are in the hospital with sprained wrists and dislocated elbows. Some argument, wot?

And now appeareth in addition to the grain and provision "expert," the war "expert," whose argument is largely a poor quality of "ifs" and "buts."

The Standard Asphalt and Rubber Company wants to tell you all about the advantages and economy of using its flooring, roofing, etc. Look 'em up.

Get out your old zinc lid; getting to be that time of year. Also, along with the kelly, see what kind of shape last winter's benny is in. May need it, too.

Swift & Company's sales of beef in Chicago for the week ending Saturday, September 12, 1914, averaged as follows: Domestic beef, 12.12 cents per pound.

Now that Roger Sullivan has "grabbed" the Senatorial nomination by a handsome majority, what is Uncle William J. going to do about it? Sue for peace?

Looks like some of those foreign embargos on American manufactures and foodstuffs—the latter especially—will be raised by common consent of the embargoists.

For a little bit of a rooster, and not in training, Belgium sure put up some scrap, and is due for at least 50 per cent. of the gate and expenses, it would seem.

Being War Lord theoretically and practically would seem two entirely different jobs. 'Twas ever thus; the would-be scrapper usually gets all he is looking for, finally.

Nothing doing any more with Wm. R. Hearst trying to force us into a war with

Mexico. He is now posing as the world's leading peace advocate. Why? Bill and him pals?

Past and present hog prices and the future outlook for demand for hog products would not indicate there's bar'ls of money in it for the packer. The short rib end of it, especially, looks punk.

London seems to be a very welcome haven of refuge at present for a whole raft of people who erstwhile spoke with contempt of the "Old Smoke" and its citizens, who are being more than hospitable to the refugees.

Bryan, Dunne, Lewis, Harrison, Hearst, *et al.*, to the contrary notwithstanding, Roger Sullivan won the Democratic nomination by a handsome majority. Evidently the people of Illinois prefer to do business with the boss hisself, rather than an agent.

Apropos of this eternal rush business, Dr. Dixon, Commissioner of Health for Pennsylvania, says: "This 'working-under-high-pressure' stuff is a delusion and a snare. A reasonable degree of deliberation and the exercise of forethought may save much mental and physical strain, without the least impairment of efficiency."

Expert statisticians state that 90 per cent. of Europe's yearly sugar crop of 8,000,000 tons normally is produced by the nations now at war—Germany, Russia, Austria-Hungary, France, Belgium and Servia—and as now is the beet harvest time, it would seem the industry will be greatly decimated this year. These countries produce 40 per cent. of the world's normal sugar output of 18,500,000 tons.

MEAT SUPPLY OF URUGUAY.

(Continued from page 16.)

The Magnitude of the Beef Extract Industry

There is one other process by which cattle meat is utilized. Few people are aware that much of the beef extract on the markets comes from the special establishments in Uruguay for that purpose, able to supply such a fine article because of the high grade of the cattle available.

The name, or rather the word Liebig, is

H. C. GARDNER. F. A. LINDBERG.
GARDNER & LINDBERG
ENGINEERS
Mechanical, Electrical, Architectural
Specialties: Packing Plants, Cold Storage,
Manufacturing Plants, Power Installations,
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U. S. YARDS

now actually synonymous with beef extract, but it could not have become so if Uruguay cattle had not been so suitable for the preparation of it, and if the Liebig company had not worked so scientifically toward furnishing its particular product. The Liebig factory is in Uruguay, at Fray Bentos, on the Uruguay River about 100 miles above Buenos Aires, but where there is depth of water sufficient to allow the entrance of vessels of a draft of 20 feet.

Fray Bentos has been called the greatest kitchen in the world. On some days 2,500 head of cattle are slaughtered, then treated so as to get the finest meat from them, the bones and ribs, the intestines, tails, sinews, hoofs and other parts being reserved for their various uses. But this special meat is subjected to scientific preparation; it is cooked, to be sure, in a real kitchen, and with the best possible care and attention to detail. There are chemists, laboratories, engineers and authorities on technical matters, all engaged in cooking the beef so as to turn it out in the most acceptable form as the well-known and popular extract.

The company is organized with a system of help to the employees, for improving their physical, material and moral welfare. It maintains an almost model city around its factories, and has a reputation for enterprise and fair dealing which gives it an enviable place in the business world.

Dairying in Uruguay has not made the advances to which the industry is entitled. Probably this is due to the fact that the animals are valuable for their meat and their hides, and that an equal profit has not been developed from the milk. This is

changing, however, since much encouragement has lately been given to the dairy industry, and various societies, together with the Government, are offering prizes for excellence in dairy. There is no good reason why Uruguay should not rival England and Denmark in the quality of its milk, butter and cheese.

Exports of Meat Products

The foreign commerce of Uruguay shows the high importance of the cattle industry in the Republic, considering sheep of course as included in the term cattle. For example, the total exports during the year 1912 amounted to \$53,000,000. Of this sum, the cattle and meat export was \$44,000,000, while agriculture accounted for only \$2,000,000, and mining products for another \$2,000,000. Of the details of shipments under the first head, wool is far in the lead, the exports being almost \$26,000,000, but meat and meat extracts gave \$5,700,000, hides and skins almost \$10,000,000, and live animals \$1,000,000.

Of live animals exported there were 77,444 heaves, 320,389 sheep, and about 2,000 horses and mules. Meat extracts included jerked beef, canned beef, beef extract, frozen beef, frozen mutton, canned tongue, and beef broth.

Such is a résumé of one of the industries of the progressive Republic of Uruguay. There is room for greater development, because, with all that has been accomplished, the limit of economic productivity is a long way from being reached. With the steadily increasing demand for meat and meat products in all the consuming markets of the world, with the well-known adaptability of the people of Uruguay for agricultural and pastoral life, with the encouraging tendency to aid immi-

gration to the country and the facility with which new settlers are absorbed into the population, Uruguay takes a favored place among the cattle countries of America.

If recent statistics may be taken as a basis of computation, the United States will soon become a market for Uruguay meat, and import annually something like \$3,500,000. If the months of March and April will serve as a criterion, and during these months the commerce can be considered normal, the importation will amount to about \$5,000,000.

The population of the United States may be taken as about 100,000,000; and as meat from the Rio de la Plata has been favorably received, it can be assumed that, within human probability, this American market will increase steadily, and that more depends upon the capacity of Uruguay to produce meat than upon the capacity of the United States to absorb it. It is evident that the United States will from now on consume its own production, however much it may increase, and will therefore need more and more an importation from abroad, especially from the region of the Rio de la Plata.

As Uruguay has upwards of 8,000,000 cattle and 29,000,000 sheep on its fertile plains, it must be taken into serious consideration as a source of supply of meat for the United States, and even then it will not come into competition with the native supply. During the last week in May, as Consul General Richling says, the average New York wholesale prices of American meats were favorable even to meats from the Rio de la Plata, because they were 10 per cent. higher than those of England for the same class of meats from that source.

CHICAGO LIVE STOCK

RECEIPTS.

	Cattle.	Calves.	Hogs.	Sheep.
Monday, Sept. 7—Holiday.				
Tuesday, Sept. 8.....	16,888	1,922	19,273	35,041
Wednesday, Sept. 9.....	15,205	1,632	16,506	38,792
Thursday, Sept. 10.....	6,399	763	12,900	37,341
Friday, Sept. 11.....	1,490	178	9,845	12,972
Saturday, Sept. 12.....	432	22	8,113	5,003
Total last week.....	40,474	4,537	66,639	129,149
Previous week.....	46,902	4,384	103,947	135,511
Cor. time, 1913.....	53,583	4,328	146,716	175,774
Cor. time, 1912.....	50,891	6,641	102,087	129,988

SHIPMENTS.

	Cattle.	Calves.	Hogs.	Sheep.
Monday, Sept. 7—Holiday.				
Tuesday, Sept. 8.....	3,060	181	3,370	8,365
Wednesday, Sept. 9.....	6,359	331	3,437	11,046
Thursday, Sept. 10.....	4,357	142	3,765	13,489
Friday, Sept. 11.....	865	9	3,077	4,953
Saturday, Sept. 12.....	302	5	2,270	1,183
Total last week.....	10,443	698	15,919	39,036
Previous week.....	18,735	729	15,550	50,162
Cor. time, 1913.....	22,232	657	44,178	60,499
Cor. time, 1912.....	17,069	557	26,622	26,978

CHICAGO TOTAL RECEIPTS LIVESTOCK.

	Cattle.	Hogs.	Sheep.
Year to Sept. 12, 1914.....	1,537,704	4,432,892	3,529,102
Same period, 1913.....	1,672,945	5,083,275	3,433,734

Combined receipts of hogs at eleven points:

Week ending Sept. 12, 1914.....	279,000
Previous week.....	379,000
Cor. week, 1913.....	434,000
Cor. week, 1912.....	323,000
Total year to date.....	15,893,000
Same period, 1913.....	16,948,000

Receipts at six points (Chicago, Kansas City, Omaha, St. Louis, St. Joseph, Sioux City) as follows:

	Cattle.	Hogs.	Sheep.
Week to Sept. 12, 1914.....	145,900	187,600	522,800
Week ago.....	141,700	259,100	322,700
Year ago.....	187,000	331,000	437,000
Two years ago.....	204,400	254,400	340,900

Combined receipts at six markets for 1914 to Sept. 12 and same period a year ago:

	1914.	1913.
Cattle.....	4,043,000	4,800,000
Hogs.....	11,316,000	12,947,000
Sheep.....	7,947,000	7,754,000

CHICAGO PACKERS' HOG SLAUGHTER.

Week ending Sept. 12, 1914:	
Armour & Co.....	10,500
Swift & Co.....	5,300
S. & S. Co.....	4,500
Morris & Co.....	3,000
Hammond Co.....	3,100
Western P. Co.....	5,900
Anglo-American.....	3,200
Independent P. Co.....	3,300
Boyd, Lunham & Co.....	2,900
Roberts & Oake.....	1,900
Brennan P. Co.....	3,000
Miller & Hart.....	3,500
Others.....	3,500

Totals.....	56,200
Previous week.....	58,000
1913.....	99,500
1912.....	76,300
Total year to date.....	3,546,300
Same period last year.....	4,173,300

WEEKLY AVERAGE PRICE OF LIVE STOCK.

	Cattle.	Hogs.	Sheep.	Lambs.
This week.....	\$9.45	\$9.00	\$5.40	\$7.80
Previous week.....	9.25	8.20	5.00	7.40
Cor. week, 1913.....	8.20	8.25	4.30	7.25
Cor. week, 1912.....	8.20	8.52	4.30	7.30
Cor. week, 1911.....	7.00	7.08	3.75	5.50

CATTLE

Steers, good to choice.....	\$9.50@11.00
Steers, fair to good.....	8.25@9.25
Yearlings, good to choice.....	8.50@10.50
Inferior steers.....	7.50@8.25
Stockers.....	6.00@7.50
Feeding steers.....	7.25@8.10
Middling to good beef cows.....	5.75@7.00
Stock cows.....	4.75@5.80
Fair to choice heifers.....	6.50@8.75
Stock heifers.....	5.50@6.75
Good to choice cows.....	5.75@7.90
Common to good cutters.....	4.25@5.00
Fair to good canners.....	3.50@4.25
Butcher bulls.....	6.75@7.30

Bologna bulls.....	5.75@6.50
Good to choice heavy calves.....	10.00@12.00
Heavy calves.....	7.50@9.00

HOGS.

Fair to fancy light.....	\$9.25@9.40
Prime light butchers, 200-230 lbs.....	9.20@9.35
Prime med. weight butchers, 230-270 lbs.....	9.10@9.30
Prime heavy butchers, 270-325 lbs.....	9.05@9.25
Butcher mixed.....	8.50@9.15
Heavy mixed packing.....	8.30@8.65
Heavy packing.....	8.25@8.45
Boars.....	3.50@4.50
*Stags.....	8.00@9.40

*All stags subject to 80 lbs. dockage.

SHEEP.

Native ewes.....	\$4.00@5.50
Native wethers.....	4.25@6.00
Western ewes.....	4.25@5.75
Western wethers.....	5.15@6.15
Western yearlings.....	6.00@7.00
Native yearlings.....	6.00@7.25
Native lambs.....	8.00@8.75
Range lambs.....	7.50@8.65
Feeding lambs.....	6.50@7.55
Bucks.....	3.00@3.75
Breeding ewes.....	4.70@5.75
Breeding yearling ewes.....	6.00@6.50

CHICAGO PROVISION MARKET

Range of Prices.

SATURDAY, SEPTEMBER 12, 1914.

	Open.	High.	Low.	Close.
PORK—(Per bbl.)—				
September.....	\$18.30	\$18.30	\$17.50	\$17.50
January.....	20.65	21.00	20.05	\$20.30

LARD—(Per 100 lbs.)—				
September.....	9.05	9.05	8.95	9.05
October.....	9.35	9.35	9.07	\$9.15
January.....	10.05	10.07½	9.75	9.82½

RIBS—(Boxed, 25c. more than loose)—				
September.....	\$11.75	\$11.75	\$11.75	\$11.75
October.....	11.47½	11.50	11.30	11.35
January.....	10.85	10.87½	10.60	10.67½

MONDAY, SEPTEMBER 14, 1914.

PORK—(Per bbl.)—				
September.....	20.25	20.25	20.15	20.15
January.....	20.25	20.25	20.15	20.15

LARD—(Per 100 lbs.)—				
September.....	9.05	9.07½	9.05	9.07½
October.....	9.27½	9.30	9.12½	9.15
January.....	9.75	10.00	9.75	9.82½

RIBS—(Boxed, 25c. more than loose)—				
September.....	\$11.75	\$11.75	\$11.75	\$11.75
October.....	11.35	11.37½	11.25	11.25
January.....	10.62½	10.75	10.57½	\$10.57½

TUESDAY, SEPTEMBER 15, 1914.

PORK—(Per bbl.)—				
September.....	17.75	17.80	17.75	\$17.80
January.....	20.40	20.62½	20.20	20.62½

LARD—(Per 100 lbs.)—				
September.....	9.20	9.27½	9.17½	\$9.27½
October.....	9.85	9.92½	9.50	\$9.92½

RIBS—(Boxed, 25c. more than loose)—				
September.....	\$11.65	\$11.65	\$11.65	\$11.65
October.....	11.30	11.32½	11.25	\$11.32½
January.....	10.70	10.77½	10.62½	\$10.77½

WEDNESDAY, SEPTEMBER 16, 1914.

PORK—(Per bbl.)—				
September.....	20.80	20.80	20.65	20.65
January.....	20.80	20.80	20.65	20.65

LARD—(Per 100 lbs.)—				
September.....	9.40	9.40	9.37½	\$9.47½
October.....	9.37½	9.35	9.37½	\$9.47½
January.....	10.00	10.15	10.00	\$10.10

RIBS—(Boxed, 25c. more than loose)—				
September.....	\$11.37½	\$11.37½	\$11.55	\$11.55
October.....	11.32½	11.32½	11.12½	\$11.12½
January.....	10.82½	10.92½	10.75	\$10.75

THURSDAY, SEPTEMBER 17, 1914.

PORK—(Per bbl.)—				
September.....	20.87½	20.80	20.50	20.55
January.....	20.87½	20.80	20.50	20.55

LARD—(Per 100 lbs.)—				
September.....	9.52½	9.57½	9.40	\$9.45
October.....	10.17½	10.17½	10.00	10.00

RIBS—(Boxed, 25c. more than loose)—				
September.....	\$11.50	\$11.50	\$11.32½	\$11.32½
October.....	11.07½	11.07½	10.80	\$10.90
January.....	10.82½	10.82½	10.65	\$10.67½

FRIDAY, SEPTEMBER 18, 1914.

PORK—(Per bbl.)—				
September.....	20.45	20.67½	20.42½	\$20.67½
January.....	20.45	20.67½	20.42½	\$20.67½

LARD—(Per 100 lbs.)—				
September.....	9.50	9.52½	9.42½	\$9.50
October.....	9.37½	9.37½	9.07½	\$9.07½
January.....	9.37½	9.37½	9.07½	\$9.07½

RIBS—(Boxed, 25c. more than loose)—				
September.....	\$11.40	\$11.40	\$11.40	\$11.40
October.....	10.65	10.75	10.62½	\$10.92½
January.....	10.65	10.75	10.62½	\$10.75

†Bld. †asked.

CHICAGO RETAIL FRESH MEATS.

(Corrected weekly by Pollack Bros., 41st and Halsted Streets.)

Beef.

Native Rib Roast.....	20	@25
Native Sirloin Steaks.....	25	@28
Native Porterhouse Steaks.....	30	@35
Native Pot Roasts.....	16	@18
Rib Roasts from light cattle.....	14	@18
Beef Stew.....	12	@14
Boneless Corned Biskets, Native.....	18	@18
Corned Rumps, Native.....	16	@16
Corned Ribs.....	12½	@12½
Corned Flanks.....	12½	@12½
Round Steaks.....	20	@25
Round Roasts.....	18	@20
Shoulder Steaks.....	18	@20
Shoulder Roasts.....	16	@18
Shoulder Neck End, Trimmed.....	18	@20
Rollad Roast.....	18	@20

Lamb.

Hind Quarters, fancy.....	20	@25
Fore Quarters, fancy.....	15	@18
Legs, fancy.....	22	@25
Stew.....	12½	@12½
Chops, shoulder, per lb.....	18	@18
Chops, rib and loin, per lb.....	18	@18
Chops, French, each.....	18	@18

Mutton.

Legs.....	14	@16
Stew.....	8	@10
Shoulders.....	12½	@12½
Hind Quarters.....	14	@16
Fore Quarters.....	10	@12½
Rib and Loin Chops.....	18	@20
Shoulder Chops.....	12½	@15

Pork.

Pork Loin.....	20	@22
Pork Chops.....	22	@24
Pork Shoulders.....	16	@18
Pork Tenderloins.....	18	@20
Pork Butts.....	18	@20
Spare Ribs.....	14	@16
Hocks.....	11	@13
Pigs' Heads.....	8	@10
Leaf Lard.....	14	@16

Veal.

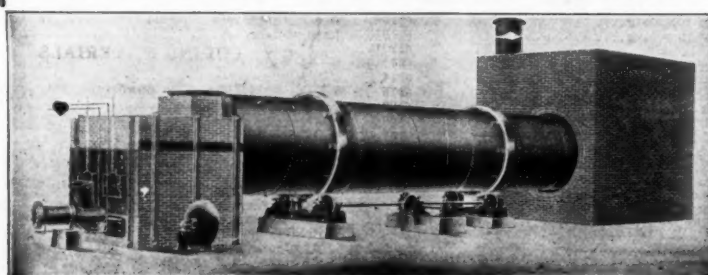
Hind Quarters.....	18	@22
Fore Quarters.....	12½	@14
Legs.....	18	@22
Breasts.....	14	@16
Shoulders.....	16	@18
Cutlets.....	16	@18
Rib and Loin Chops.....	18	@20

Butchers' Offal.

Suet.....	7	@7
Tallow.....	3½	@3½
Bones, per cwt.....	1.00	@1.00
Calfskins, 8 to 15 lbs.....	20	@20
Calfskins, under 15 lbs. (deacon). ..	65	@65
Kips.....	16	@16

Watch Page 48
for
Business Chances

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Great CapacitySAVING IN LABOR ALONE IN ONE YEAR WILL
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CHICAGO MARKET PRICES

WHOLESALE FRESH MEATS.

Carcass Beef.

Prime native steers	14 1/4 @ 15 1/4
Good native steers	14 1/4 @ 14 1/4
Native steers, medium	13 1/4 @ 13 1/4
Helpers, good	12 1/4 @ 13 1/4
Cows	12 1/4 @ 12 1/4
Hind Quarters, choice	17 @ 17
Fore Quarters, choice	12 1/4 @ 12 1/4

Beef Cuts.

Cow Chucks	10 @ 11 1/4
Steer Chucks	12 1/4 @ 12 1/4
Boneless Chucks	12 1/4 @ 12 1/4
Medium Plates	9 1/4 @ 9 1/4
Steer Plates	9 1/4 @ 9 1/4
Cow Rounds	11 1/4 @ 11 1/4
Steer Rounds	11 @ 11
Cow Loins	14 @ 14
Steer Loins, Heavy	14 @ 14
Beef Tenderloins, No. 1	19 @ 19
Beef Tenderloins, No. 2	19 @ 19
Strip Loins	13 1/4 @ 13 1/4
Sirloin Butts	16 1/4 @ 16 1/4
Shoulder Clods	13 @ 13
Rolls	15 1/4 @ 15 1/4
Rump Butts	13 @ 14 1/4
Trimnings	10 1/4 @ 10 1/4
Shank	7 @ 7
Cow Ribs, Common, Light	11 1/4 @ 12
Cow Ribs, Heavy	14 1/4 @ 15
Steer Ribs, Light	17 1/4 @ 18
Steer Ribs, Heavy	17 1/4 @ 18
Loin Ends, steer, native	17 1/4 @ 18 1/4
Loin Ends, cow	16 1/4 @ 16 1/4
Hanging Tenderloins	12 @ 12
Plank Steak	14 1/4 @ 14 1/4
Hind Shanks	7 @ 7

Beef Offal.

Brains, per lb.	8 @ 8
Hearts	7 @ 7
Tongues	17 @ 17
Sweetbreads	25 @ 25
Ox Tail, per lb.	8 @ 8
Fresh Tripe, plain	5 1/4 @ 5 1/4
Fresh Tripe, H. C.	8 @ 8
Brains	7 @ 7
Kidneys, each	6 1/4 @ 6 1/4

Veal.

Heavy Carcass, Veal	12 @ 12
Light Carcass	17 @ 17
Good Carcass	18 1/4 @ 18 1/4
Good Saddle	19 @ 19
Medium Racks	13 @ 13
Good Racks	15 @ 15

Veal Offal.

Brains, each	7 @ 7
Sweetbreads	60 @ 60
Calf Livers	26 @ 26
Heads, each	25 @ 25

Lambs.

Good Lamb	14 @ 14
Round Dressed Lambs	16 @ 16
Saddles, Caul	16 @ 16
R. D. Lamb Racks	13 1/2 @ 13 1/2
Caul Lamb Racks	13 @ 13
R. D. Lamb Saddles	18 1/4 @ 18 1/4
Lamb Fries, per lb.	20 @ 20
Lamb Tongues, each	4 @ 4
Lamb Kidneys, each	1 1/4 @ 1 1/4

Mutton.

Medium Sheep	11 @ 11
Good Sheep	12 @ 12
Medium Saddles	12 @ 12
Good Saddles	12 @ 12
Good Racks	11 @ 11
Medium Racks	10 @ 10
Mutton Legs	14 @ 14
Mutton Loins	10 @ 10
Mutton Stew	9 @ 9
Sheep Tongues, each	2 1/2 @ 2 1/2
Sheep Heads, each	10 @ 10

Fresh Pork, Etc.

Dressed Hogs	14 1/4 @ 14 1/4
Pork Loins	19 1/2 @ 19 1/2
Leaf Lard	12 @ 12
Pancakes	30 @ 30
Spare Ribs	10 1/4 @ 10 1/4
Butts	15 @ 15
Hocks	10 @ 10
Trimnings	11 1/4 @ 11 1/4
Extra Lean Trimnings	16 @ 16
Tails	8 1/2 @ 8 1/2
Snouts	6 @ 6
Pigs' Feet	3 1/2 @ 3 1/2
Pigs' Heads	5 1/2 @ 5 1/2
Blade Bones	9 @ 9
Blade Meat	10 @ 10
Cheek Meat	9 @ 9
Hog Livers, per lb.	5 @ 5
Neck Bones	4 @ 4
Skinned Shoulders	13 1/2 @ 13 1/2
Pork Hearts	9 @ 9
Pork Kidneys, per lb.	7 @ 7
Pork Tongues	14 @ 14
Slip Bones	6 @ 6
Tail Bones	7 @ 7
Brains	4 1/4 @ 4 1/4
Backfat	13 @ 13
Hams	16 1/2 @ 16 1/2
Calas	14 @ 14
Bellevue	17 @ 17
Shoulders	14 @ 14

SAUSAGE.

Columbia Cloth Bologna	12 1/4 @ 12 1/4
Bologna, large, long, round, in casings	12 1/4 @ 12 1/4

Choice Bologna	15 @ 15
Frankfurters	14 1/4 @ 14 1/4
Blood, Liver and Headcheese	11 @ 11
Tongue	15 @ 15
Minced Sausage	19 @ 19
Luncheon Sausage, cloth paraffine	19 @ 19
New England Sausage	20 @ 20
Compressed Luncheon Sausage	19 @ 19
Special Compressed Ham	19 @ 19
Berliner Sausage	18 @ 18
Boneless Butts in casings	20 @ 20
Oxford Butts in casings	20 @ 20
Polish Sausage	13 1/2 @ 13 1/2
Garlic Sausage	13 @ 13
Country Smoked Sausage	16 @ 16
Farm Sausage	16 @ 16
Pork Sausage, bulk or link	13 1/4 @ 13 1/4
Pork Sausage, short link	13 1/4 @ 13 1/4
Boneless Pigs' Feet	10 @ 10
Luncheon Roll	16 @ 16
Delicatessen Loaf	12 1/4 @ 12 1/4
Jellied Roll	20 @ 20

Summer Sausage.

Best Summer, H. C. (new)	27 1/2 @ 27 1/2
German Salami (new)	25 1/4 @ 25 1/4
Italian Salami	27 @ 27
Holsteiner	20 1/4 @ 20 1/4
Mettwurst, New	23 1/4 @ 23 1/4
Farmer	23 1/4 @ 23 1/4

Sausage in Oil.

Smoked, large cans, 50	6.50 @ 6.50
Smoked, small cans, 20	6.00 @ 6.00
Bologna, large cans, 50	6.00 @ 6.00
Bologna, small cans, 20	5.75 @ 5.75
Frankfort, large cans, 50	6.50 @ 6.50
Frankfort, small cans, 20	6.00 @ 6.00

VINEGAR PICKLED GOODS.

Pickled Pigs' Feet, in 200-lb. barrels	12.00 @ 12.00
Pickled Plain Tripe, in 200-lb. barrels	9.35 @ 9.35
Pickled H. C. Tripe, in 200-lb. barrels	12.50 @ 12.50
Pickled Pig's Snouts, in 200-lb. barrels	17.25 @ 17.25
Sheep Tongues, Short Cut, barrels	41.50 @ 41.50

CORNED, BOILED AND ROAST BEEF.

No. 1, 2 doz. to case	2.50 @ 2.50
No. 2, 1 or 2 doz. to case	4.75 @ 4.75
No. 6, 1 doz. to case	18.00 @ 18.00
No. 14, 1/2 doz. to case	41.50 @ 41.50

EXTRACT OF BEEF.

2-oz. jars, 1 doz. in box	3.85 @ 3.85
4-oz. jars, 1 doz. in box	7.15 @ 7.15
8-oz. jars, 1/2 doz. in box	13.60 @ 13.60
16-oz. jars, 1/2 doz. in box	25.50 @ 25.50
2, 5 and 10-lb. tins	1.75 @ 1.75 per lb.

BARRELED BEEF AND PORK.

Extra Plate Beef, 200-lb. barrels	— @ —
Plate Beef	— @ —
Prime Mess Beef	— @ —
Mess Beef	— @ —
Beef Hams (220 lbs. to bbl.)	— @ —
Rump Butts	— @ —
Mess Pork, old	24.00 @ 24.00
Clear Fat Backs	25.50 @ 25.50
Family Back Pork	26.00 @ 26.00
Bean Pork	21.00 @ 21.00

LARD.

Pure leaf, kettle rendered, per lb., tes	12 @ 12
Pure leaf	11 @ 11
Lard, substitute, tes	9 1/4 @ 9 1/4
Lard, compound	9 1/4 @ 9 1/4
Cooking oil, per gal., in barrels	62 @ 62
Cooks' and bakers' shortening, tubs	11 1/2 @ 11 1/2
Barrels, 1/2c. over tierces, half barrels, 1/2c. over tierces; tubs and pails, 10 to 80 lbs., 1/2c. to 1c. over tierces	— @ —

BUTTERINE.

1 to 6, natural color, solids, f. o. b. Chicago	14 1/4 @ 14 1/4
Cartons, rolls or prints, 1 lb.	15 1/2 @ 15 1/2
Cartons, rolls or prints, 2 @ 5 lbs.	15 @ 15
Shortenings, 30 @ 60 lb. tubs	11 1/2 @ 11 1/2

DRY SALT MEATS.

Clear Bellies, 14 @ 16 avg.	16 1/2 @ 16 1/2
Clear Bellies, 18 @ 20 avg.	16 @ 16
Rib Bellies, 18 @ 20 avg.	16 @ 16
Fat Backs, 12 @ 14 avg.	12 1/4 @ 12 1/4
Regular Plates	12 @ 12
Clear Plates	11 1/4 @ 11 1/4
Butts	10 1/4 @ 10 1/4
Bacon meats, 1/2c. to 1c. more	— @ —

WHOLESALE SMOKED MEATS.

Hams, 12 lbs., avg.	19 @ 19
Hams, 16 lbs., avg.	19 1/2 @ 19 1/2
Skinned Hams	20 1/2 @ 20 1/2
Calas, 4 @ 6 lbs., avg.	14 1/2 @ 14 1/2
Calas, 6 @ 12 lbs., avg.	14 @ 14
New York Shoulders, 8 @ 12 lbs., avg.	15 @ 15
Breakfast Bacon, fancy	27 @ 27
Wide, 10 @ 12 avg., and strip, 5 @ 6 avg.	20 @ 20
Wide, 6 @ 8 avg., and strip, 3 @ 4 avg.	22 @ 22
Rib Bacon, wide, 5 @ 12, strip, 4 @ 6 avg.	18 1/2 @ 18 1/2
Dried Beef Sets	28 1/4 @ 28 1/4
Dried Beef Sides	31 1/4 @ 31 1/4
Dried Beef Knuckles	29 1/4 @ 29 1/4
Dried Beef Outsides	28 @ 28
Regular Botted Hams	29 1/2 @ 29 1/2
Smoked Botted Hams	28 1/2 @ 28 1/2
Polled Calas	22 1/2 @ 22 1/2
Cooked Loin Rolls	22 @ 22
Cooked Rolled Shoulder	22 @ 22

SAUSAGE CASINGS.

F. O. B. CHICAGO.

Rounds, per set	21 @ 21
Export Rounds	30 @ 30
Middles, per set	70 @ 70
Beef bungs, per piece	24 @ 24
Beef weaners	7 @ 7
Beef bladders, medium	55 @ 55
Beef bladders, small, per doz.	80 @ 80
Hog casings, free of salt	70 @ 70
Hog middles, per set	10 @ 10
Hog bungs, export	10 @ 10
Hog bungs, large, mediums	10 @ 10
Hog bungs, prime	7 @ 7
Hog bungs, narrow	4 @ 4
Imported wide sheep casings	1.20 @ 1.20
Imported medium wide sheep casings	1.00 @ 1.00
Imported medium sheep casings	90 @ 90
Hog stomachs, per piece	4 @ 4

FERTILIZERS.

Dried blood, per unit	3.12 @ 3.15
Hoof meal, per unit	2.65 @ 2.75
Concentrated tankage	2.50 @ 2.60
Ground tankage, 12%	2.95 @ 2.95 and 10c.
Ground tankage, 8 and 25%	2.80 @ 2.80 and 10c.
Crushed tankage, 9 and 20%	2.95 @ 2.95 and 10c.
Ground tankage, 6 1/4 and 30%	23.00 @ 24.00
Ground rawbone, per ton	25.00 @ 27.00
Ground steam bone, per ton	21.50 @ 22.50
Unground tankage, per ton less than ground	50c. @ 50c.

HORNS, HOOFS AND BONES.

Horns, No. 1, 65 @ 70 lbs., aver.	240.00 @ 260.00
Horns, black, per ton	35.00 @ 36.00
Horns, striped, per ton	35.00 @ 40.00
Horns, white, per ton	65.00 @ 70.00
Flat shin bones, 40 lbs. ave., per ton	70.00 @ 75.00
Round shin bones, 35-40 lbs. av., per ton	75.00 @ 80.00
Round shin bones, 50-52 lbs. av., per ton	80.00 @ 90.00
Long thigh bones, 90-95 lbs. av., per ton	85.00 @ 95.00
Skulls, jaws and knuckles, per ton	28.00 @ 30.00

LARD.

Prime steam, cash	9.45 @ 9.45
Prime steam, loose	9.22 1/4 @ 9.22 1/4
Leaf	10 1/4 @ 10 1/4
Compound	8 1/4 @ 8 1/4
Neutral lard	12 1/4 @ 12 1/4

STEARINES.

Prime oleo	11 @ 11
Oleo, No. 2	10 @ 10 1/4
Mutton	10 1/4 @ 10 1/4
Tallow	7 1/4 @ 7 1/4
Grease, yellow	5 1/4 @ 5 1/4
Grease, A white	6 1/4 @ 6 1/4

OILS.

Lard oil, winter strained, tierces	71 @ 73
Extra lard oil	68 @ 70
Extra No. 1 lard oil	60 @ 62
No. 1 lard oil	54 @ 56
No. 2 lard oil	52 @ 54
Oleo oil, extra	13 @ 13
Oleo oil, No. 2	12 @ 12 1/4
Oleo stock	10 @ 10 1/4
Neatsfoot oil, pure, bbls.	68 @ 70
Acidless tallow oils, bbls.	62 @ 64
Corn oil, loose	5 @ 5.20
Horse oil	6 1/4 @ 6 1/4

TALLOW.

Edible	7 1/4 @ 8
Prime city	7 1/4 @ 7 1/4
No. 1 Country	6 1/4 @ 7 1/4
Packers' Prime	6 1/4 @ 7 1/4
Packers' No. 1	5 1/4 @ 6 1/4
Packers' No. 2	5 @ 5 1/4
Renderers' No. 1	6 1/4 @ 6 1/4

GREASES.

White, choice	7 @ 7
White, "A"	6 1/4 @ 6 1/4
White, "B"	6 1/4 @ 6 1/4
Bone	5 1/4 @ 6
Crackling	5 1/4 @ 6
House	5 @ 5 1/4
Yellow	5 1/4 @ 5 1/4
Brown	5 @ 5 1/4
Glue stock	5 1/4 @ 5 1/4
Garbage grease	4 1/4 @ 4 1/4
Glycerine, C. P.	26 @ 27
Glycerine, dynamite	24 @ 25
Glycerine, crude soap	14 1/4 @ 15 1/4
Glycerine, candle	17 @ 17 1/4

COTTONSEED OILS.

P. S. Y., loose	41 1/2 @ 42
P. S. Y., soap grade	41 @ 41 1/4
Soap stock, tbls., concn., 62 @ 65% f. a.	2.30 @ 2.40
Soap stock, loose, reg., 50% f. r. f. a.	1.10 @ 1.15

COOPERAGE.

Ash pork barrels	80 @ 82
Oak pork barrels	85 @ 87
Lard tierces	1.05 @ 1.10

CURING MATERIALS.

Refined saltpetre	12 @ 14
Boracic acid, crystal to powdered	7 @ 8
Borax	8 1/4 @ 8 1/4
Sugar	— @ —
White, clarified	7 @ 7
Plantation, granulated	7 1/4 @ 7 1/4
Yellow, clarified	6 1/4 @ 6 1/4
Salt—	— @ —
Ashton, in bags, 224 lbs.	22.25 @ 22.25
Ashton, car lots	2.00 @ 2.00
English packing, in bags, 224 lbs.	1.45 @ 1.45
English packing, car lots	1.25 @ 1.25
Michigan, granulated, car lots, per ton	3.25 @ 3.25
Michigan, medium, car lots, per ton	2.75 @ 2.75
Casting salt, bbls., 280 lbs., 2x @ 3x	1.40 @ 1.40

Retail Section

PRACTICAL TALKS WITH SHOP BUTCHERS

More About the Handling of Canned Meats and Fish

By a Veteran Retailer.

In a recent issue of The National Provisioner the very important matter of the handling of canned goods by retail butchers was thoroughly discussed. Many kinds of canned meats were suggested that many retail butchers have never even heard of before, the very best of reasons being given why the retailer should handle them. But there is still more to say on this subject.

From his point of view the outlook for the future prosperity of the retail butcher is rather dubious. At present he finds it hard work to make a living, which is to a certain extent his own fault, for many reasons.

The wholesaler, packer, slaughterer, commission man, etc., sell goods with the distinct understanding that all bills must be paid in full every week, and with them paying in full means exactly what it says. If a retail butcher buys \$275.33 worth of goods, the entire amount, including the 33 cents, is supposed to be paid.

How many retail butchers conduct their business like that? Not one in five hundred! There are always balances due, and carried along weekly, monthly and yearly. A few years ago the wholesaler did business the same way himself, but gradually a few began to demand full payment weekly, and got it. And the news spread rapidly from one to another, until it is now so universal that it has become an accepted method in the meat business.

The Western packers have shown the whole world how to do business from the financial end to the way a quarter of beef should be hung without spoiling its appearance. What reason, if any, can be given that the retail butcher cannot also demand his money in full every week. There are hundreds of small shops, doing a business of a few hundred dollars a week, with two and three and four thousand dollars outstanding constantly on their books. And they call themselves good business men.

If they were asked how much of that cold hard cash they have worked so hard for was collectible in a week's time, the answer would invariably be "It's all good." They won't admit, even to themselves, that if they could collect 50 per cent. of it they would be amazed at themselves. Is not this alone sufficient reason for the retailer to wake up and put his business on the cash basis, where it should have been long ago.

If "cash" were the universal way of conducting a retail butcher shop, this business of being afraid of losing a customer would disappear entirely, because every butcher would demand cash for his goods and the man who sells good meat all year round, regardless of price, and gives his business the proper attention, would be bound to prosper, regardless of competition or any other cause. If the wholesaler can sell thousands of dollars' worth of meat a day on a cash basis, surely the small shopkeeper can do the same with

the few dollars' worth of business he does over the bench every day.

Many shopkeepers in small Western towns have made their business strictly cash within the past two or three years, and the movement is rapidly growing. They have the courage of their convictions, and know that if they want to remain in business they must get the cash for the goods they sell. And as the margin of profit on meats is small, they must increase their stock of goods by handling other foodstuffs as well. Otherwise they will be forced to face conditions far more trying than those which already exist.

But the business must be handled intelligently. They all know that to cut the most out of beef they must use brains as well as a knife, cleaver and saw. So must they also use brains in putting new departments in their stores.

Why Not Handle Fish?

Is there a butcher living who has not had a customer say to him at some time or another, "I'm going to run into the fish store down the street. Do you mind sending my fish along with my meat?" What's the reason the butcher doesn't sell that customer her fish? It would cost him no more for rent, help, light or delivery. It's simply because it's too much trouble, and makes more work for him.

There is always a good profit in fish, no matter how scarce or how dear they are. When a butcher says, as they often do, "I haven't the room, or the time, or I don't want to mess up the shop," that's not the real reason. The smallest kind of a shop has a window or a bench that can be used, somehow or some way, if the proprietor really wants to sell fish. The busiest butcher can find the time to order his fish sent to him by a reliable dealer, who is glad to send him whatever he needs, at market prices which can be easily verified.

And the man who doesn't want to "mess up" his shop is just lazy. Perhaps a jewelry or silk stocking department would suit him better. How can he make a success of his business if he does not love his work? The biggest, richest and most successful butchers in the country would not hesitate an instant in putting on a frock and jumping behind the bench to help out in a rush, never stopping to think of an expensive suit of clothes they might mess up to sell a poor woman 15 cents' worth of stew meat, which they hand to her with a smile.

That's how they became big, rich and successful. They weren't afraid to mess up their shop or mess up themselves, even to their manicured finger nails. Soap, water and brushes are cheap!

Canned Goods as a Side Line.

That department disposed of, another of probably still more importance is canned goods. Not necessarily fruit, vegetables, etc., but canned meats. And just as the customer

says "I'm going to run into the fish store," so she also says, "I'm going to run into the grocer's for a can of cooked corned beef," or potted tongue, or ham, or something else of that kind.

Are the butchers asleep, that they should stand idly by and see their customers deliberately walk out of their stores and into the stores of competitors to buy meat, without making the slightest effort of any kind to sell that meat themselves? What matter if the competitor is a grocer, and the customer buys canned meat. It's still meat, whether it's canned or pulverized or bottled or jerked.

What would Mr. Butcher say to the customer who told him she was going to run over to the butcher across the way and buy a turkey or a ham? If his temper didn't flare up, he'd tell her that he has turkeys and hams himself for sale. Why doesn't he tell her the same about the canned meat?

Now more than ever should he install a canned goods department, because in a very short time for sanitary reasons he will not be permitted to expose meat of any kind. The tops of the glass counter cases, which he will be compelled to use make an ideal counter for the display of all kinds and assortments of canned goods.

For many years he has been accustomed to have the same things in the same place, mathematically correct and in order, until his regular customers knew as well as he did where to look for the things they wanted. But is there any doubt in the mind of any intelligent butcher that a nice, clean, attractive line of canned goods, neatly stacked on top of their counter cases, where the trade is compelled to see them, will not very materially increase his sales, and the profit from which, no matter how small per can, is most acceptable, and with not one penny of additional expense attached to the increased sales.

(To be continued.)

MAKING THE MOST OF THE STEAK.

"It looks to me," says "an experienced housewife" in the Philadelphia Public Ledger, "as if it is only a question of time until beef-steak succeeds chicken as the piece de resistance of the family dinner on Sundays, high days and holidays. Every time I go to market, steak seems just a little bit more of a luxury, while the price of chickens remains practically unchanged. I no longer have a casual feeling about ordering one, for a steak is a STEAK, nowadays, quite worthy of being written in capitals. Moreover, I feel that I must utilize every scrap of it.

"Take this thick sirloin, for instance, which you will notice I am getting out of its wrappings and on a plate as quickly as possible, so that the juices will not be absorbed by the paper—I would once have chooped off the 'tail,' as we contemptuously used to call the tough flank end, tossed it into the garbage pail and felt that I was doing my duty by my family in sending the tender portion to the table, broiled brown and juicy. Now I feel that I must carefully trim off all superfluous suet to be later fried out and added to the little

pitcher of drippings I always keep at hand when cooking. And as for that offensive 'tail,' it must be put through my meat grinder, seasoned, and patted into cakes to be broiled with the steak proper, each member of the family to receive one along with a stingy portion of the tender steak.

"Of course, I realize that I was formerly an extravagant cook and am not only glad to be 'put wise' by domestic economists as to the little dishes that can be made of left-overs and the soup value of bones and trimmings, but often wonder how I could get along without their helpful suggestions now that 'everything,' as the ducky said, 'is going up except wages.'

"Steaks, you know, are cut very differently in different places. In our market we have tenderloin—the most overrated of cuts—porterhouse, sirloin, flank, rump and round. Our porterhouse is the small side of the loin and is occasionally cut of unusual thickness and sold as a club steak.

"There is no steak more attractive and thrifty looking than a good cut of round with its tiny bone and thin line of encircling white fat. It has less waste than any piece I know of and its constant use for beef tea is proof of its extraordinary juiciness. It is only in exceptional cases, however, that I attempt to broil it, although if I liked meat 'well done,' I could hardly hesitate, since long cooking lessens toughness. From my experience I should say that the most successful way of cooking it is to sear it quickly in a hot pan and then cook slowly in a casserole. The delicious juices are then retained and the meat is made tender.

"Flank steak is frequently tough and stringy and the best use that can be made of it is to cut a pocket, fill it with a dressing made of moistened bread crumbs and an egg, seasoned with onion juice, pepper, salt and perhaps prepared poultry seasoning or sage, and then bake it slowly with an occasional basting.

"The saving grace of these cuts lacking in tenderness is that they are often of much finer flavor and contain more nutrition than more favored ones, but at the same time they are more suitable for cooking en casserole, stewing or stuffing than for broiling. If the soaring price of meat drives us all eventually to them it may yet be counted one of those blessings in disguise—very skillfully disguised—that we hear about, for many scientists claim that it is only a question of time until we will become a toothless race from too much soft food and too little chewing.

"With all our new 'isms' we have found no better way of making tough meat tender than that employed by our grandmothers, who either pounded their poor cuts before cooking them or let them lie for a while in vinegar and water. The only difference is that now we know that the connective tissue between the little bundles of fibres and muscles is to blame for the toughness, and that if we can break it down by beating, or melt it with the acetic acid of vinegar, we have a fair chance of improving our meat."

TEACH FOOD BUYING AT SCHOOL.

A dozen district superintendents, teachers and other members of the New York City public school staff conferred this week with Chairman George W. Perkins of the Mayor's Committee to agree upon a plan for educating school children in what foods to buy and how to buy them. This step in the committee's plan for fighting the high cost of living will be put into effect in all the schools of the city within a few days through the co-operation of President Churchill of the Board of Education.

Forty per cent. of the city's retail buying is done by children, it is said. In addition, adults of foreign birth can be most readily reached with educative propaganda through their children. So the committee believes that school instruction in how to avoid being cheated and how to buy economically will be of great benefit to the general population.

The plan will embrace instruction in selecting cheap, nutritious substitutes for expensive foods and later may include demonstrations in preparation of foodstuffs. Commissioner of Weights and Measures Hartigan has secured the free services of ten retired butchers and ten retired grocers to aid the teachers in showing the children how to buy.

LOCAL AND PERSONAL.

A meat market will be opened on Brighton avenue, Rochester, Pa., by John Kress of Adams street.

I. O. Baker's East Main street market, Eaton, Ohio, has been purchased by Spacht & Ramsey.

John Chappes has opened a meat market in the Kramer building on Pennsylvania avenue, Monaca, Pa.

Karl Wheeler, of Hamilton, Canada, has purchased the meat market of Christensen Brothers at Corliss, Wis.

A meat market to be known as the Cash Market will be opened on Main street, Ware, Mass., by Dryan D. Rohan.

Gus. Keim has purchased the Lippold Brothers' meat market on West Main street, Ottawa, Ill.

A petition in bankruptcy has been filed by Frank R. Wadlinger, of North Liberty street, Newcastle, Pa., due to being unable to collect outstanding bills. Liabilities are \$3,092.24 and assets \$4,833.40.

R. H. Wood has sold his meat market at 506 Jackson street, Sioux City, Iowa, to Philip Herzoff.

Dallas & Miller will open a meat market in the Wellons building on Arch street, Martins Ferry, Ohio.

E. E. Bemis has purchased F. G. Hosley's meat market at Jamaica, Vt.

Carl Dinzenger, of Brooklyn, N. Y., has purchased B. Hoffman's meat market on Ridge Road, Union, N. J.

George Strack has taken charge of the local meat shop at Sadorus, Ill.

A new meat market will be opened at 63 Monroe street, Endicott, N. Y., by R. J.

Broderick. It will be known as the "Trojan Market."

Cooley & Carmack have opened a meat market in the Foley building at Eufaula, Okla.

George Hostetler has again engaged in the meat business at Newkirk, Okla.

McCune & Company have purchased the Burnham Meat Market at Lewis, Kan.

Adam Bahl has purchased the People's Meat Market at Hays City, Kan., from Frank & Sons.

H. T. Tilgner is about to open a new meat market in the store of the Lincoln Mercantile Company, Lincoln, Kan.

Fred E. Knight has disposed of the Seventh Street Meat Market, Chanute, Kan., to W. F. James.

J. J. Stolas has purchased the City Meat Market in Wagoner, Okla., from Rutherford & Pitzer.

Mouser & Will have added a meat market to their grocery store at Tulsa, Okla.

Harley Frazier has purchased the meat business of Walter Macy in Woodston, Kan.

Lou Bunker has disposed of the City Meat Market, Burr Oak, Kan., to W. B. Sutliff.

George Hays has purchased the Woodruff City Meat Market at Woodruff, Kan.

Maroot Marodian has sold out his meat market at 830 West Third street, Los Angeles, Cal., to E. D. Crist.

Grieve & Montgomery have opened with a new stock of meats at Whitehall, Mich.

F. L. Fuller has succeeded to the entire meat business of the old firm of Fuller & Duncan at Pentwater, Mich.

McCrary & Jennings have purchased the meat business of George Walt at Carson City, Mich. Mr. McCrary was formerly a partner of Mr. Walt.

Frank McCoy has purchased the Stokes meat market at Howe, Neb.

David Litz has just engaged in the meat business at Bassett, Neb.

H. C. Hill has purchased the meat business of H. C. Smith at Allen, Neb.

Crouch & Company are about to open a new butcher shop at Glasgow, Mont.

Ed. Huguenin is now in charge of the Huguenin meat market at Peabody, Kan.

Charles Allen has been succeeded in the meat business at Alton, Kan., by J. B. Conn.

Shuler & Wolverton have sold their meat market at Indianola, Iowa, to Robert Graham.

John Leffingwell's meat and grocery business on Main street, Southbridge, Mass., has been purchased by Edward Kelly.

The Tripp Brothers' meat market in Weir Village, Mass., has been closed.

Manley W. Hart has purchased the grocery, fish and meat market connected with the Cash Food Shop, Main and Pleasant streets, Rockland, Me.

B. V. H. Slack has installed a meat market in connection with W. H. Hardesty's grocery, Zanesville, Ohio.

Are you on the lookout for good business opportunities? Watch page 48.

WESTERN PACKING and PROVISION COMPANY
 UNION STOCK YARDS, CHICAGO
COMMISSION SLAUGHTERERS AND PACKERS
KILLERS FOR EASTERN PACKERS
Dressed Beef, Hogs, Sheep, Veal and all Products
Complete Government Inspection
 Members American Meat Packers' Association.

New York Section

M. Loeb, of Arverne, has opened a new market at Edgemere, L. I.

Harold Swift of Chicago spent a few days in New York this week.

A. Hasselbacher, cattle buyer for Swift & Company at Chicago, was in New York this week.

T. C. Sullivan, manager of the Swift provision department at New York, was in Chicago this week.

J. T. Dunn, of the S. & S. Company provision department at Chicago, was in New York this week.

Vice-President W. H. Noyes, of Swift & Company of New York, is confined to his home at Tenafly, N. J., by illness.

Isaac Stroh, a butcher of No. 72 Ridge street, has filed a petition in bankruptcy, with liabilities of \$9,996 and no assets.

Swift & Company's sales of beef in New York City for the week ending September 12, 1914, averaged as follows: Domestic beef, 12.34 cents per pound.

Superintendent L. F. Gerber, of the New York plant of the S. & S. Company, has returned with his family from a vacation automobile tour through the Pocono mountains.

Morris Solinger, of the United Dressed Beef Company, brought his family back this week from their summer home on Long Island, and they are now installed in their New York residence for the winter.

Reports have been received from Henry Edelmuth concerning his safe departure from the Continent, and he is expected in New York in the near future. He got his automobile out of the war tangle, as well, which was more than some others did.

W. Robinson, office manager for the S. & S. Company at New York headquarters, returned this week from a vacation spent in the Maine woods in company with his brother, Hugh Robinson, formerly of the New York office, but now district manager at Boston.

Miss Elizabeth Smith, secretary to General Manager Edwards, of Swift & Company's New York district, has returned safely from a vacation tour abroad. Miss Smith left just before the declaration of war, and there was much fear for her safety for a while. She cut out the Continental part of her itinerary and spent the time in the British Isles, suffering no inconvenience at any time.

The following is a report of the number of pounds of meat, fish, poultry and game seized and destroyed in the city of New York during the week ending September 12, 1914, as follows: Meat.—Manhattan, 2,293

lbs.; Brooklyn, 15,704 lbs.; Richmond, 12 lbs.; total, 18,009 lbs. Fish.—Manhattan, 4,800 lbs.; Brooklyn, 135 lbs.; Richmond, 5 lbs.; total, 4,940 lbs. Poultry and game.—Manhattan, 7,804 lbs.; the Bronx, 1,025 lbs.; total, 8,829 lbs.

The food price investigation before Supreme Court Justice Benedict in Brooklyn was continued this week by an assistant of District Attorney Cropsey. Representatives of wholesalers and retailers were heard as witnesses. The wholesalers related their methods of doing business, and explained that prices were regulated by the supply and costs and by the demand, which of late had been cut down by agitation and other causes. Some retailers with axes to grind and a love of seeing their names in the newspapers got in their little "knock" on the wholesalers, and some outsiders posing as experts made some very wild statements concerning trade conditions. The old bogie of "vast amounts of meat in cold storage" again turned up and was exploited by the newspapers with characteristic lack of intelligence. The filling of British army orders with Argentine frozen beef in storage here, and which had been a drug on the market so far as shop trade was concerned, was also used with sensational coloring. It all sounded very terrible to those unacquainted with the actual conditions in the trade, and even some very well-meaning people were apparently "taken in" by the parade of ancient bogies.

NEW YORK'S PUBLIC MARKETS.

The effort to establish additional open public markets in New York City for the sale of foodstuffs direct to consumers is still being vigorously pushed by Borough President Marks of Manhattan. His idea is a praiseworthy one, but he is working under difficulties. Some abuses are creeping in, such as the violation of the sanitary code by the exposure of fish and other foodstuffs to the flies and dust of the streets. Producers are not flocking to these markets when they can get more money in the old channels of trade. The novelty of the new scheme for the consumer is also wearing off.

John Buckle and L. J. Lippmann, both dealers in foodstuffs, who are members of the Borough President's Open Market Committee, told the committee this week that the new open markets were a failure. "So far as bringing the producer and the consumer together is concerned," said Mr. Buckle, who is well known in the meat trade, "the markets are an absolute failure. I have been about the markets, and I know. What's more, at least one-third of the stuff on the push-carts should be destroyed. It's a disgrace to the city to have such things on sale in its markets."

"That's a very grave charge against the Health Department," said Borough President Marks, who presided. "I had a report from Dr. Goldwater only yesterday saying that the markets were in excellent condition."

No meats have been sold at these markets. The sanitary conditions make it impossible.

In discussing this market plan the New York Produce Review says:

"No one can reasonably object to any steps that may be effective in bringing closer to-

gether the producer and consumer of life's necessities; it would be the same as objecting to the introduction of labor saving machinery. There is a constant tendency toward more direct distribution due to the effects of an open competition among distributing agencies, and which is favored by every improvement in the standardization and reliability of quality in the supplies marketed.

"But the efforts of the New York City government to bring producers and consumers together by the establishment of free markets where farmers can bring their productions for direct sale at retail are amusing rather than interesting. They may accomplish their object to a limited extent, but to a very limited extent only and to that extent unfairly.

"The amount of food that can be brought into New York by the producers of it is a mere bagatelle in comparison with the city's needs. And even the producers in the small area from which wagon hauling is practicable will have to consider whether the higher price that they may obtain by driving to the city markets and peddling out their goods in retail quantity, is compensation for the time and extra labor required. We doubt that many of them will find it profitable, especially if they sell their produce below the normal level of retail prices.

"We think it safe to say that more than 99 per cent. of New York's food supply is brought from places so distant as to preclude the personal conduct to market by the owners, and the city's 'free markets' must, as a rule, become merely places where peddlers buying produce in the wholesale markets, are given especial facilities for retailing the goods in competition with the establishments which pay rent.

"With all the free advertisement given to this proposition by the city officials and others through the newspapers, and all the talk about bringing the producer to the consumer for direct trading, a lot of our housewives may be deluded into the belief that the peddlers who mainly appear in these market places are 'producers'; but the fact remains that with the exception of the necessarily very small number of nearby farmers who may try the experiment, the produce to be obtained there passes through just the same number of hands as that obtained at the corner store.

"The whole principle is wrong. Besides being largely a fake, there is no reason why the city should provide a part of the food dealers—and the most irresponsible and unreliable part at that—with free selling facilities to compete thus unfairly with those who cannot be so accommodated."

PUBLIC MARKETS IN CHICAGO

Among the men who are directing the efforts to solve the problem of the high cost of living resulting from the war, is Frederick Rex, municipal reference librarian and secretary of the Chicago Municipal Markets Commission. The commission has undertaken to establish public markets in different parts of the city and lower prices by eliminating middlemen.

The aim of the commission, Mr. Rex says, is to systematize food distribution facilities in Chicago. At present, market facilities are inadequate, unsanitary and extremely wasteful. To improve things the commission recommends the establishment of public markets wherever private retailers fail to render satisfactory service to the economically weaker part of the city's population.

HEARN West Fourteenth St., New York.

NO MEATS GROCERIES LIQUORS BUT EVERYTHING IN DRY GOODS.

MODEL MEAT PLANT IN HEART OF NEW YORK

Aside from a few plants operated by large packers, it has been the general impression that New York City meat plants were to a large extent in the old slaughterhouse class; that is, confined chiefly to killing and handling only the main by-products, or else merely cutting and curing plants. Modern operating conditions demand adaptation to modern methods, however, and even the smaller plants are being equipped in that direction.

Proof that an up-to-date all-around plant of medium size can be operated within the limits of New York City is shown in the case of the new Shannon plant on West 40th street, in the heart of the borough of Manhattan. This plant, belonging to the Joseph & David Shannon Company, was erected under the supervision of the U. S. Department of Agriculture, and government and city inspectors and meat men who have visited it pronounce it a model for its size.

This plant is at the foot of West 40th street and is housed in a four-story building, 75 by 100 feet in area. It can handle 5,000 sheep and lambs and 4,000 hogs per week, and has as auxiliaries a modern fertilizer and fat rendering department capable of handling the fat and offal of 1,500 sheep daily, and a wool pulling and drying plant equipped with the latest machinery. The power and refrigerating plants are also modern and ample in capacity.

The construction throughout is that required by the United States government, for sanitary standards, and the lay-out is of the sort to effect the highest economies in operation.

The sheep killing floor, which is the ground floor, is fitted up to handle 1,000 sheep a day, and they can be handled at a minimum of expense, as everything is on the ground floor. All skins and offal are dropped to the cellar through the chutes, thereby assuring cleanliness and saving all handling and other expense. The salesroom is 40 by 85 feet,

equipped with modern rails and trackage, has concrete and asphalt floors and walls, etc. Adjoining are offices of the company, offices for the government inspectors, dressing rooms with shower baths and drying racks for frocks of workmen. The killing floor is in the rear and there is room for 16 butchers to work. Livestock comes in over a bridge from the stock yards at the rear.

Adjoining this floor is a big, modern cooler, taking up one side of the building. It has ample natural light, sanitary racks for offal, etc., and the pipes and tracking are hung from the ceiling, so that the insulation of the walls is not pierced.

The second floor of the main building is to be fitted up for the killing of 700 hogs a day, and still leave sufficient room for the sacking, storing and shipping of wool. Every one in the trade knows the value of a hog plant within the city limits of New York. By an investment of \$5,000 for the necessary machinery an income of \$6,000 a year is assured from this floor alone. Hogs can be slaughtered at an expense of less than ten cents a head. The rough offal offsets the cost of power and light required.

The wool plant is partly in the basement and partly on the third floor, connected by elevator and by automatic hoist for the skins, which saves the use of elevator and labor of two men in handling skins. The wool drying plant includes an improved type of dryer, which utilizes all the exhaust steam and eliminates the back pressure on the engines. The steam is then run through a condenser, thus giving the highest efficiency with the smallest amount of coal expense.

The fertilizer and fat rendering department is in a separate building, a concrete and iron structure, which is entirely cut off from all communication with the main building. Two tanks, three stories in height, are installed here, and there is room left for a fourth tank. This department can be operated at a minimum expense and without extra cost, as it is worked on a gravity system, and once the material is deposited in the tanks at the highest point, it requires no more attention than the pulling of an occasional lever or the turning of a valve or switch. This system has been followed throughout the entire plant, and it is claimed that this plant can operate with less expense than any other in the city.

The power plant consists of two 125 H. P. boilers, one 75 K. W. Sprague generator, directly connected with an Ames engine of 125 H. P., and an auxiliary 35 K. W. Curtis turbine generator. There is also installed an ice machine of forty tons capacity, and salt and fresh water pumps, assuring a plentiful supply of water both from the river and the company's own artesian well. The 2-inch salt water system for flushing and fire purposes is installed throughout the entire plant. There is also a complete system of catch basins, to catch all particles of fat and grease. All machinery is operated by individual motors, with separate switchboards on each floor connected with a main switchboard in the engine room. The pickling department is in a separate building at the rear, as are the coal bunkers.

INSPECTING PUBLIC MARKETS.

Borough President Marks has received from the office of the Department of Health a statement setting forth the result of inspections which he has made of the public markets in the Borough of Manhattan. Commissioner Goldwater has given his co-operation to President Marks in the effort to make the markets successful in every way. The report follows:

Manhattan Bridge Market: The fish stands at this market have increased to six. One hundred and forty-one pushcarts and stands are doing business. Two farmers had vegetables for sale. Five pounds of tomatoes and 2 pounds of bananas have been condemned as unfit for food. Arrangements have been made whereby samples of eggs from each lot held for sale are candled each day.

Queensboro Bridge Market: All foodstuffs kept for sale were found to be wholesome, with the exception of 35 pounds of fruit and vegetables, which have been condemned and destroyed. Ninety-three stands were engaged in business and 11 farm wagons had vegetables for sale. Sanitary conditions were good. Instructions relating to Section 46 were given in several cases.

Harlem Bridge Market: Two dealers in meat have installed proper stands. The inspector has found nuisances caused by the discharge of waste from melting ice. There is at present no proper means provided to take care of such waste water. There are 164 stands and wagons doing business and well patronized. No foodstuffs were found in a condition to be condemned. The inspector reports that the quality of foodstuffs offered for sale has improved.

Fort Lee Ferry Market: There were 83 wagons and carts offering foodstuffs for sale. Sanitary conditions were good. No foodstuffs were condemned.

J-M INSULATING MATERIALS

J-M Pure Cork Sheets J-M Granulated Cork
J-M Impregnated Cork Boards J-M Hair Felt
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Write us as to your requirements.

H. W. JOHNS-MANVILLE CO.
NEW YORK AND EVERY LARGE CITY.

NEW YORK MARKET PRICES

LIVE CATTLE.

Good to choice native steers.....	\$8.50@10.40
Poor to fair native steers.....	7.00@ 8.35
Oxen and stags.....	5.50@ 8.25
Bulls.....	5.25@ 7.75
Cows.....	3.50 @ 7.00
Good to choice native steers one year ago.	7.60@ 8.40

LIVE CALVES.

Live veal, common to choice, per 100 lbs..	9.00@13.50
Live veal calves, culls.....	@ 8.00
Live calves, buttermilks, per 100 lbs.....	—@—
Live veal calves, grassers, per 100 lbs.....	@ 6.50

LIVE SHEEP AND LAMBS.

Live lambs, ordinary to good.....	9.00@ 9.25
Live lambs, culls.....	@ 6.50
Live sheep, common to fair, ewes.....	4.00@ 5.50
Live sheep, culls.....	—@—

LIVE HOGS.

Hogs, heavy.....	@ 9.70
Hogs, medium.....	@ 9.50
Hogs, 140 lbs.....	@ 9.90
Pigs.....	@ 9.70
Rough.....	8.50@ 8.75

DRESSED BEEF.

CITY DRESSED.

Choice, native heavy.....	16 @16½
Choice, native light.....	15½@16
Native, common to fair.....	13½@15

WESTERN DRESSED BEEF.

Choice native heavy.....	15 @16
Choice native light.....	@15
Native, common to fair.....	@14½
Choice Western, heavy.....	14½@15
Choice Western, light.....	@13
Common to fair Texas.....	12½@13
Good to choice heifers.....	14 @15
Common to fair heifers.....	13 @13½
Choice cows.....	12½@13
Common to fair cows.....	@12
Fleshy Bologna bulls.....	11 @11½

BEEF CUTS.

	Western.	City.
No. 1 ribs.....	18 @19	@20
No. 2 ribs.....	16 @17	@18
No. 3 ribs.....	13 @13½	@14
No. 1 loins.....	18 @19	@22
No. 2 loins.....	16 @17	@21
No. 3 loins.....	13 @13½	@16
No. 1 hind and ribs.....	16½@17	17½@18½
No. 2 hind and ribs.....	15½@16	16 @17
No. 3 hind and ribs.....	@14	13 @15
No. 1 rounds.....	13½@14½	@14
No. 2 rounds.....	12½@13	@13½
No. 3 rounds.....	11½@12	@12½
No. 1 chucks.....	13½@14½	@15
No. 2 chucks.....	@13	@14
No. 3 chucks.....	11½@12	@13

DRESSED CALVES.

Veals, city dressed, good to prime, per lb..	@20
Veals, country dressed, per lb.....	@18
Western calves, choice.....	@18
Western calves, fair to good.....	@16
Western calves, common.....	@15
Grassers and buttermilks.....	@13½

DRESSED HOGS.

Hogs, heavy.....	@12½
Hogs, 180 lbs.....	@13
Hogs, 160 lbs.....	@13½
Hogs, 140 lbs.....	@13¾
Pigs.....	@14

DRESSED SHEEP AND LAMBS.

Spring lambs, choice.....	@16½
Lambs, choice.....	@15
Lambs, good.....	@14
Lambs, medium to good.....	@12½
Sheep, choice.....	@11½
Sheep, medium to good.....	@10½
Sheep, culls.....	@ 9

PROVISIONS.

(Jobbing Trade.)

Smoked hams, 10 lbs. avg.....	@15½
Smoked hams, 12 to 14 lbs. avg.....	@18
Smoked hams, 14 to 16 lbs. avg.....	@18
Smoked picnic, light.....	@14½
Smoked picnic, heavy.....	@14½

Smoked shoulders.....	@14½
Smoked bacon, boneless.....	@22
Smoked bacon (rib in).....	19 @20
Dried beef sets.....	@30
Smoked beef tongue, per lb.....	@22
Pickled bellies, heavy.....	@16½

FRESH PORK CUTS.

Fresh pork loins, city.....	19 @22
Fresh pork loins, Western.....	16 @19
Fresh pork tenderloins.....	@35
Frozen pork tenderloins.....	@31
Shoulders, city.....	@16
Shoulders, Western.....	@15
Butts, regular.....	@15½
Butts, boneless.....	@18
Fresh hams, city.....	@21
Fresh hams, Western.....	@20
Fresh picnic hams.....	@15

BONES, HOOFS AND HORNS.

Round shin bones, avg. 48 to 50 lbs. per 100 pcs.....	\$95.00@100.00
Flat shin bones, avg. 40 to 45 lbs. per 100 pcs.....	@ 80.00
Black hooft, per ton.....	40.00@ 45.00
Striped hooft, per ton.....	50.00@ 55.00
White hooft, per ton.....	80.00@ 85.00
Thigh bones, avg. 85 to 90 lbs. per 100 pcs.....	@ 90.00
Horns, avg. 7½ oz. and over, No. 1's.....	@200.00
Horns, avg. 7½ oz. and over, No. 2's.....	@100.00
Horns, avg. 7½ oz. and over, No. 3's.....	@ 75.00

BUTCHERS' SUNDRIES.

Fresh steer tongues.....	@14½c. a pound
Fresh cow tongues.....	@12½c. a pound
Calves' heads, scalded.....	@50c. apiece
Sweetbreads, veal.....	@100c. a pair
Sweetbreads, beef.....	@30c. a pound
Calves' livers.....	@25c. a pound
Beef kidneys.....	@15c. apiece
Mutton kidneys.....	@ 3c. apiece
Livers, beef.....	@12½c. a pound
Oxtails.....	@10c. apiece
Hearts, beef.....	@ 8c. a pound
Rolls, beef.....	@30c. a pound
Tenderloin, beef, Western.....	@30c. a pound
Lambs' fries.....	8 @ 8½c. a pair
Extra lean pork trimmings.....	@17c. a pound
Blade meat.....	@12½c. a pound

BUTCHERS' FAT.

Ordinary shop fat.....	@ 2½
Suet, fresh and heavy.....	@ 5
Shop bones, per cwt.....	25 @35

SAUSAGE CASINGS.

Sheep, imp., wide, per bundle.....	@1.20
Sheep, imp., medium, per bundle.....	@ 85
Sheep, domestic, wide, per bundle.....	@70
Sheep, domestic, medium, per bundle.....	@70
Sheep, domestic, narrow med., per bundle.	@30
Hog, American, free of salt, tcs. or bbls., per lb. f. o. s. New York.....	@70
Hog, extra narrow selected, per lb.....	@70
Hog, middles.....	@10
Beef rounds, domestic, per set, f. o. b. Chicago.....	@21
Beef rounds, export, per set, f. o. b. New York.....	@28
Beef hungs, piece, f. o. b. New York.....	@25
Beef middles, per set, f. o. b. New York.....	@74
Beef middles, per set, f. o. b. Chicago.....	@72
Beef weasands, per 1,000, No. 1s.....	@ 7½
Beef weasands, per 1,000, No. 2s.....	@ 4

SPICES.

	Whole.	Ground.
Pepper, Sing., white.....	23	25
Pepper, Sing., black.....	14	16
Pepper, Penang, white.....	22	24
Pepper, red.....	20	23
Allspice.....	5½	7½
Cinnamon.....	16	20
Coriander.....	10	12
Cloves.....	20	23
Ginger.....	11	14
Mace.....	70	75

SALTPETRE.

Crude.....	—@—
Refined—Granulated.....	—@—
Crystals.....	—@—
Powdered.....	—@—

GREEN CALFSKINS.

No. 1 skins.....	@ .27
No. 2 skins.....	@ .26
No. 3 skins.....	@ .15
Branded skins.....	@ .19
Ticky skins.....	@ .19
No. 1 B. M. skins.....	@ .25
No. 2 B. M. skins.....	@ .23
No. 1, 12½-14.....	@2.90
No. 2, 12½-14.....	@2.65
No. 1 B. M., 12½-14.....	@2.55
No. 2 B. M., 12½-14.....	@2.30
No. 1 kips, 14-18.....	@2.95
No. 2 kips, 14-18.....	@2.80
No. 1 B. M. kips.....	@2.30
No. 2 B. M. kips.....	@2.20
No. 1, heavy kips, 18 and over.....	@3.80
No. 2, heavy kips, 18 and over.....	@3.55
Branded kips.....	@2.00
Heavy branded kips.....	@2.35
Ticky kips.....	@2.25
Heavy ticky kips.....	@2.00

DRESSED POULTRY.

FRESH KILLED.

Turkeys—	
Western, spring, per lb.....	15 @25
Chickens—	
Broilers, Western, milk fed.....	20 @22
Broilers, Western, corn-fed.....	@17
Fowl—Dry packed, 12 to box—	
Western boxes, 48 to 55 lbs. to doz., dry-picked.....	@20
Western boxes, 36 to 42 lbs. to doz., dry-picked.....	@18
Fowl—bbls.—	
Western, dry-pkd., 4 lbs. avg.....	18½@19
Southern and S. W., dry-pick, avg. best.....	17 @18
Other Poultry—	
Old Cocks, per lb.....	@13½
Squabs, prime, white, 10 lbs. to doz., per doz.....	@3.50

LIVE POULTRY.

Broilers.....	16½@17½
Fowls, choice.....	18 @19
Roosters, old.....	13 @13½
Ducks, old, per lb.....	17 @18
Geese, per lb., South. and West.....	15 @16

BUTTER.

Creamery, Extras.....	32 @32½
Creamery, Firsts.....	28½@31½
Process, Extras.....	26 @26½
Process, Firsts.....	24½@25½

EGGS.

Fresh gathered, extra fine.....	29 @31
Fresh gathered, extra firsts.....	27 @28
Fresh gathered, firsts.....	25 @26
Fresh gathered, seconds.....	23 @24
Fresh gathered, dirties.....	22 @22½
Fresh gathered, checks.....	17 @21

FERTILIZER MARKETS.

BASIS. NEW YORK DELIVERY.

Concentrated tankage, Chicago.....	@ 2.75
Bone meal, steamed, per ton.....	21.75 @22.00
Bone meal, raw, per ton.....	25.00 @28.00
Hoof meal, per unit, Chicago.....	@ 3.00
Dried blood, West. high grade, fine, f. o. b. Chicago, prompt.....	@ 3.00
Dried blood, f. o. b. New York.....	@ 3.30
Nitrate of soda—spot.....	@ 2.05
Bone black, discard, sugar house del. New York.....	@22.00
Dried tankage, N. Y., 11 to 12 per cent. ammonia, f. o. b. New York.....	3.30 and 10c.
Tankage, 11 and 15 p. c. f. o. b. Chicago, prompt.....	2.95 and 10c.
Garbage tankage, f. o. b. New York.....	7.00 @ 7.50
Fish scrap, dried, 11 p. c. ammonia and 15 p. c. bone phosphate, delivered, Baltimore.....	3.50 ' and 10c.
Foreign fish guano, testing 13@14% ammonia and about 10% B. Phos. Lime, c. i. f. Charleston and New York.....	Nominal.
Wet, acidulated, 7 p. c. ammonia per ton, f. o. b. factory (35c. per unit available phos. acid).....	Nominal@3.00 and 35c.
Sulphate ammonia gas, for shipment, per 100 lbs., guar., 25%.....	Nominal.
Sulphate ammonia gas, per 100 lbs., spot, guar., 25%.....	@ 2.95
So. Carolina phosphate rock, ground, per 2,000 lbs., f. o. b. Charleston.....	6.50 @ 7.70
So. Carolina phosphate rock, undried, f. o. b. Ashley River, per 2,240 lbs.....	3.50 @ 3.75
The same, dried.....	3.75 @ 4.00

